

REPORTS, RETURNS AND STATISTICS  
OF THE  
INLAND REVENUES  
OF THE  
DOMINION OF CANADA  
FOR THE YEAR ENDED MARCH 31  
1909  
PART III  
ADULTERATION OF FOOD

*PRINTED BY ORDER OF PARLIAMENT*



OTTAWA

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1909







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REPORT  
OF THE  
DEPUTY MINISTER OF INLAND REVENUE.

INSPECTION OF FOODS, DRUGS AND FERTILIZERS.

To the Hon. WM. TEMPLEMAN,  
Minister of Inland Revenue.

SIR,—I have the honour to submit herewith the reports of the official analysts of the Dominion for the year ending March 31, 1909.

Only one sample was analyzed outside the central laboratories of Ottawa, viz.:—

Description.	Genuine.	Doubtful.	Adulterated.	Total.
Lard .....			1	1

The following statement shows the work done by the Chief Analyst and staff at Ottawa, for the year ending March 31, 1909.

Description.	Genuine.	Doubtful.	Adulterated.	Sold as Com.	Total.
Tincture Iodine.....	60	0	15	0	75
Glacial Acetic Acid. ....	34	11	0	0	45
Oil of Lemon .....					45
Maple Syrup .....	61	4	13	6	84
Con. Commercial Feeding Stuffs. ....					142
Maple Products.....	124	1	14	3	142
Paris Green.....	149	1	0	0	150
Olive Oil.....	64	3	15	0	82
Native Wines .....					101
Fertilizers.....	97	19	3	0	119
Ice Cream .....					145
Pickles.....					149
Canned Meats.....					76
Ground Pepper.....	216	13	69	0	298
Unfermented Grape Juice. ....					70
Sp. Ætheris Nitrosi.....	28	0	49	0	77
Tr. of Opium.....					31
Cider.....					62
Butter.....	292	3	0	0	295
Cheese.....					237
Ground Coffee.....	391	13	45	0	449
Ground Cloves .....	74	68	(3 lost)	0	142
Baking Powders.....					158
Liquor Arsenicalis.....					75
Mustard.....					76
Table Syrups. ....					75
Spirit of Camphor .....	62	8	4	0	74
Tincture of Ginger.....	62	9	4	0	75
Total.....					3,549



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In addition to the above, 824 samples of miscellaneous character (detailed in the Report of the Chief Analyst) have been analyzed, making the total number 4,373 samples, as against 3,202 for the preceding year 1907-1908.

I desire to draw your attention to the remarks, contained in the report of the Chief Analyst, respecting the difficulty of establishing proper standards for foods.

The subject, while most important, is a difficult one and ample consideration must be given this matter. The establishment of unjust, or unworkable standards would have a most injurious effect on trade and it is therefore the wisest course to proceed with due caution. I am confident that the establishment of proper and just standards will be made at a fairly early date.

The Fertilizers Act, passed last Session of Parliament and which comes into force upon January 1st, 1910, will, it is believed, prove to be more workable than the one now upon the statute books. Under its provisions the interests of the Agricultural community will be better served than heretofore, due to the fact that every brand of fertilizer offered for sale shall bear a registration number assigned by the department and which number must be legibly affixed by the manufacturer or agent to every package of fertilizer sold. In addition to this registration number, every such package must have printed thereon the name of the brand, the name and address of the manufacturer and the analysis of the preparation as guaranteed by said manufacturer.

The provisions of the Act respecting Commercial feeding stuffs, which also comes into effect upon the 1st January, 1910, are almost identical with those of the Fertilizers Act and will no doubt tend to prevent the sale of practically worthless products.

I have the honour to be, sir,

Your obedient servant,

W. J. GERALD,  
*Deputy Minister.*

INLAND REVENUE DEPARTMENT,  
OTTAWA, July 9, 1909.



## REPORT OF THE CHIEF ANALYST.

OTTAWA, July 8, 1909.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to report as follows upon the work of this laboratory, for the fiscal year ending March 31, 1909.

During this period, 3,552 samples were collected by our inspectors. The results of analysis of these are detailed in Bulletins 152 to 179, both inclusive, as follows:—

Number of Bulletin.	Subject.	Number of Samples.
152	Tincture of Iodine.....	75
153	Glacial Acetic Acid.....	45
154	Oil of Lemon.....	45
155	Maple Syrup.....	84
156	Concentrated Commercial Feeding Stuffs.....	142
157	Maple Products.....	142
158	Paris Green.....	150
159	Olive Oil.....	82
160	Native Wines.....	101
161	Fertilizers As Sold 1908.....	119
162	Ice Cream.....	145
163	Pickles.....	149
164	Canned Meats.....	76
165	Ground Pepper.....	298
166	Unfermented Grape Juice.....	70
167	Spiritus Ætheris Nitrosi.....	77
168	Tincture of Opium.....	31
169	Cider.....	62
170	Butter.....	295
171	Cheese.....	237
172	Ground Coffee.....	449
173	Ground Cloves.....	142
174	Baking Powders.....	158
175	Liquor Arsenicalis (Fowler's Solution).....	75
176	Mustard.....	76
177	Table Syrups.....	75
178	Spirit of Camphor.....	74
179	Tincture of Ginger.....	75
	Total.....	3,549

In addition to the above there have been performed the following occasional analyses, during the year:—

Standard Fertilizers.....	199
Acetic Acid.....	12
Alcohol.....	4
Baking Soda.....	2
Beer.....	24
Butter.....	12



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Camphor Spirit.....	1
Chocolate .....	1
Cider.....	1
Cloves .....	3
Coal Oil.....	7
Cognac .....	1
Condensed Milk .....	2
Cream Tartar.....	7
Diamalt .....	1
Fertilizers.....	12
Floor Cleaner.....	1
Fruit (canned) .....	3
Fusel Oil.....	6
Honey.....	1
Ice-Cream.....	1
Jams .....	4
Lard .....	15
Liniment .....	1
Linseed Oil.....	1
Liquors .....	2
Maple Sugar.....	2
Maple Syrup.....	16
Milk .....	49
Mustard .....	1
Nux Vomica Extract .....	1
Olive Oil.....	6
Peas .....	3
Pemmican .....	1
Pepper .....	7
Pickles .....	4
Porter .....	2
Preserves .....	4
Raspberry Pulp.....	1
Salt .....	2
Sodium Nitrate.....	1
Starches (Laundry).....	4
Stearin .....	1
Tallow.....	1
Tincture Iodine.....	3
Triangle Baby's Food .....	1
Turpentine.....	1
Viavi Capsules.....	1
Vinegar .....	353
Wax Candles .....	4
Water .....	19
Whiskey .....	4
Wine.....	4
Wood alcohol.....	2
Yeast .....	2

824

The total number of analyses made is therefore 4,373. The following solutions have been prepared and supplied for the use of Excise officers, in vinegar testings:—

Normal Soda Solution.....	65 winchesters
Standard Phenolphthalein.....	13 bottles
Standard Sulphuric Acid .....	4 bottles



## SESSIONAL PAPER No. 14

About 35,000 bulletins have been addressed, from this office, to the different parts of the Dominion.

Extended researches on tobacco were carried out and reported to you.

The preliminary arrangements for bringing into operation the Proprietary or Patent Medicine Act, (which Act took effect on the first day of April) have entailed a considerable amount of work upon this branch; and the whole time of one of my assistants has been given to this work for some months past.

The matter of revision of the Fertilizers Act; and the preparation of an Act to provide for the inspection of Cattle Foods, have required much time and labour. It is satisfactory to note that the Acts referred to will come into operation in January, 1910.

The question of defining standards for foods has been referred to in all recent reports, and hopes have been held out, from year to year, that some definite action might be expected. The matter has proved to be a very difficult one to deal with. All nations feel its importance, and some have attempted legislation which experience has shown to be impracticable. I have realized the necessity of well considered action; and have been particularly anxious not to advise rash measures in a matter which, by injudicious precipitancy must seriously hamper trade, and bring discredit upon honest efforts for food control.

In order to afford a starting point for definite action, I prepared a draft of standards, based largely upon similar attempts in other countries, but modified to a considerable extent by my own experience. This I submitted to the Acting Deputy Minister on the 2nd March, with the following letter:—

DEAR SIR,—I beg to refer you to File 93949 (L. 46947) and to Mr. Gerald's letter of the 24th January, 1908. To this I replied on the 27th January, 1908.

"Since that date I have constantly kept in view the recommendation of standard definitions for Foods, to form the basis of an Order in Council under Section 26 of the Adulteration Act. It is quite apparent that, since the decision given by Judge Trenholme of Montréal, quashing a conviction in maple sugar case (*See 'Star'* of Nov. 5, 1908) we need not expect to get any convictions under the Act, until such standards are fixed.

"The scheme now submitted is based upon Food Standards as defined by the Department of Agriculture at Washington, but modified by my own experience, and by such recorded work done in England, France and Germany as I have had access to. The list is not complete, and I may specially mention the absence of spirituous liquors and baking powders.

"Nor can I assert that the definitions as given, although prepared with every possible care, are to be taken as beyond criticism. Indeed, as already pointed out to the Deputy Minister, I consider that this subject is of such importance as to justify the naming of experts who should share with me the responsibility of dealing with it. I have taken the liberty of suggesting Dr. Ellis, of Toronto, and Dr. Donald, of Montreal, as suitable members of the board so constituted.

"I shall be pleased to have your further instructions regarding the matters herein presented."

Yours truly,

A. MCGILL,  
*Chief Analyst.*

On the 16th March, the following letter was also addressed to the Acting Deputy Minister, by me:—

"DEAR SIR,—In mine of the 2nd instant, referring to Food Standards, I inclosed a draft scheme of definitions, to form the basis for an Order in Council, under Sec. 26 of the Adulteration Act.

"It is my conviction that a great deal of friction may be avoided by submitting advance copies of this scheme to manufacturers of food products who will be affected by it.



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"I would respectfully ask your sanction to my doing this, with the view of obtaining critical opinions and suggestions from such manufacturers; as well as personally interviewing representative men and associations, for the purpose of giving explanations and reasons for departmental action in the matter of food standards.

"Certain classes of foods are in their nature, capable of absolute definition, such as meats, vegetables, sugars, &c. But manufactured articles, such as sausage, lard, condensed milk, preserves, syrups, flavouring extracts, &c., must be defined with reference to local conditions. The same is true of spices, which are imported in a crude state, and this condition necessarily influences the nature of the prepared spice, to some extent. On these matters, the manufacturer has a right to be heard.

Yours truly,

A. MCGILL,  
*Chief Analyst.*

These references will show the ground I have for hoping that, before another year has passed, we shall have made some progress in the actual adoption of legal food standards. The work is quite too large to admit of completion within a single year; but will be considered in sections, and with due regard to all the interests involved, The Hon. the Minister of Inland Revenue having authorized the nomination of Prof. W. H. Ellis, of Toronto, and Dr. J. T. Donald, of Montreal, to form along with myself, a Board of Reference in this matter, as suggested in my letter of the 2nd March, I venture to hope that the work may proceed without further delay.

Copies of Bulletins 151 to 179 (inclusive) issued during the past year, are appended to this report.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*

HALIFAX, N.S. June 1, 1909.

The Deputy Minister of Inland Revenue  
Ottawa.

RECEIVED SIR,—I have the honour to submit my Annual Report on samples of Food, &c., analyzed by me during the year ending 31st March, 1909.

No samples were received for analysis.

I have the honour to be, sir,  
Your obedient servant,

MAYNARD BOWMAN.

MONTREAL, May 28, 1909.

The Deputy Minister,  
Inland Revenue Department, Ottawa.

RECEIVED SIR,—I beg to report that during the fiscal year ending March 31st, 1909, I have not analyzed any samples for your department.

I am,  
Your obedient servant,

J. T. DONALD.



SESSIONAL PAPER No. 14

*Translation.*

OTTAWA, May 31, 1909.

Mr. ALPHONSE LEMOINE,  
Assistant Chief Analyst,  
Ottawa.

SIR,—I have to inform you that not having received any sample during the fiscal year 1908-09, I have not, consequently, any report to make to the Minister of Inland Revenue.

Your obedient servant,

F. X. VALADE, M.D.,  
*Public analyst for District of Kingston.*

OFFICE OF THE PUBLIC ANALYST,

VICTORIA, B.C., June 17th, 1909.

The Minister of Inland Revenue,  
Ottawa.

SIR,—I have the honour to present a tabulated statement showing the result of the examination of the sample submitted by the department during the year ending March 31, 1909.

Received April 6th, 1908. Reported April 18th, 1908.

Sample	General	Ad. Per cent	Total
Lard....	0	1	1

I have the honour to be, sir,  
Your obedient servant,

C. J. FAGAN,  
*Public Analyst.*







APPENDIX A.

BULLETIN No. 151—STANDARD FERTILIZERS, 1908.

OTTAWA, April 14, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I have the honour to report upon 199 samples of Agricultural Fertilizers, registered for sale in Canada in 1908.

The appended table is self explanatory, and contains a statement of the guaranteed content of each sample, as well as the content found by analysis in this laboratory.

The Fertilizers Act (Chap. 132, R. S. 1906) Section 4, requires the publication of the "relative value of each fertilizer calculated from its contents in fertilizing ingredients, at their current market value."

The following values have been used in calculating this relative value :—

	Cents per lb.
Nitrogen, in salts of ammonia, or nitrates, as well as in compound fertilizers .....	17
Organic nitrogen, in ground bone, fish blood or tankage .....	16
Phosphoric acid :	
Soluble in water. ....	6
Soluble in 1 per cent citric acid solution.....	5½
Insoluble in Thomas phosphate powder, bone, fertilizers generally.....	1½
Potash, in compound fertilizers.....	5

Owing to the fact that the nitrogen in most of the compound fertilizers, is derived in part from organic but chiefly from inorganic materials, its value has been, in most cases taken at 17 cents per lb. It is believed that the error so introduced, is small enough to be negligible.

The valuation of the phosphoric acid involves greater difficulty. Many samples are accompanied by statements of the total phosphoric acid, without distinguishing between soluble and insoluble acid. In such cases it has been impossible to place a value based on the manufacturer's or importer's guarantee ; but the relative value is calculated upon the results of analysis of the sample deposited here. Whether the importer can be held responsible, without his explicit consent, for such valuation is an open question. It has been claimed that, while the importer guarantees a minimum percentage weight of phosphoric acid, he does not guarantee a minimum value for such ingredient.

In a few cases, there occur in the tables, samples which have been analyzed and registered although intended rather for *use* than for *sale* by the sender. This arises from indefiniteness on the part of the sender in stating just what was wanted.

It is probable that most of the brands registered as 'tankage' are not intended for sale as fertilizers, but rather, for sale as material for the manufacture of fertilizers. Strictly speaking it is no part of the duty of this department to do this class of work, which is entirely commercial in its character, and should be left to be dealt with by those financially interested in it.



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The regulation under which a fertilizer analysis is made in this laboratory for the nominal charge of three dollars, is made primarily in the interest of users of fertilizers, or of dealers in the same who may desire to be in a position to give a personal guarantee as to the value of the goods they sell. The departmental laboratory does not desire to come into competition with commercial analysts, or to regulate the fees properly remunerative, for such work. It is only in such cases where we have found it impossible to make the above indicated distinctions, that work of the kind described has been accepted in this laboratory.

In our last bulletin (No. 134) on this subject, the late Chief Analyst remarks as follows: "The Fertilizers Act, 1890, requires that (Standard) samples shall be transmitted to the Minister of Inland Revenue, before the end of the month of January in each year, but, to suit the convenience of the manufacturers, this term has been gradually extended until samples are accepted which come as late as the end of April."

I have found it necessary, this year, to concede the same extension of time, and would respectfully draw your attention to the fact that the main object for which this publication exists, is really defeated by the delay referred to. This Bulletin is intended to furnish farmers and gardeners with information as to different brands of fertilizers to be offered for sale in Canada during the next following season. Unless the publication is in their hands, before they require to place their orders for fertilizers it is manifestly useless to them. As a matter of fact, this bulletin should be available to the public on the first of March.

*Phosphate Slags.*—Seven of the fertilizers herein registered are ground slags, containing from 16 to 20 per cent of phosphoric acid, to which they owe their fertilizing value. None of this phosphoric acid is in the free state; but the special combinations in which it exists are not fully known. By reference to Bulletin No. 70 (May, 1900) and No. 75 (May, 1901), it will be seen that the late Chief Analyst gave consideration to the question of expressing the "relative value" of phosphoric acid in these slags, as compared with the value of phosphoric acid in acidulated fertilizers. For various reasons, which are stated in Bulletin 70, he concluded "that it would be inconvenient and possibly unjust, to change a system which has been established for twelve years, and which is well understood by the fertilizer manufacturers and agriculturists of the Dominion, without at least substituting for it another which has the approval of a body of British Chemists having a reputation equally as high as that of the United States Association of Agricultural Chemists."

The matter was referred to the Society of Public Analysts, London (See Bulletin 75, p. 5), but, further than expressing themselves dissatisfied with the application of the Ammonium citrate process to basic slags, no conclusions were reached.

Here the matter has rested; and a 1 per cent citric acid solution has been applied to the determination of so called "available" phosphoric in slags, as in other fertilizers, since 1901.

The same process has been used in the samples now reported, because I am not prepared to recommend another process, as yet. But I am not persuaded that the process now employed, is all that could be wished, or that its indications do justice to the particular class of fertilizers known as phosphatic slags. It is certain that it would be unfair to apply the "relative numbers" based upon present methods of analysis, in comparing the fertilising value of a slag with that of a superphosphate fertilizer. The "relative values" herein given for slags, must be interpreted as only applicable to slag fertilizers, when compared with each other. And it is not certain that even then the conclusions drawn will be true to the facts, as indicated by field experiments.

It is not impossible that the phosphoric acid in slags is practically all of one kind, its availability depending rather upon the fineness with which the slag is ground, than upon any actual state of combination. The whole question of valuation of slags is yet undergoing study; and I hope that before another Bulletin dealing with fertilizers is issued, I shall be able to describe a method of analysis more fully meeting the exigencies of the case.



## SESSIONAL PAPER No. 14

*Reverted Phosphoric Acid.*—The substitution of a 1 per cent solution of citric acid, for the usual solution of ammonium citrate, in determining reverted phosphoric acid, was made by the late Chief Analyst for reasons given in Bulletin 75 (page 6). These may be quoted here.

‘ Besides defending the position taken by this Branch, and also by the Agricultural Committee of the House of Commons.’ I also suggested a plan by which *all* fertilizers could be tested by exactly the same method without doing any injustice to the Thomas Phosphate Powder or basic slag. This consisted (after the removal of the soluble phosphoric acid, when present, by water) in boiling the water-insoluble residue, or, in the case of basic slag, the powdered sample direct with a strong solution of ammonium chloride, so as to remove any free lime which the sample might contain, and after this to determine the available phosphoric acid by a 1 per cent solution of citric acid as recommended by Dr. Bernard Dyer. The latter part of the plan is justified in an elaborate paper by that gentleman entitled “On the analytical determination of probably available mineral plant food in soils”, and published in the Journal of the Chemical Society, Vol. LXV; from which the following important conclusion may be quoted:—“A one per cent citric acid solution appears, then, to give indications fairly bearing out the manurial properties of phosphatic materials as recognized by experience in the field; it approximates fairly well to the average strength of the natural solvent (root sap) used by the plant itself; and tested by the result it gives on soils of known history and condition, it appears likely to afford a not unreliable means of gauging, as regards the available mineral constituents the probable fertility of the soil itself”.

This substitution of citric acid for citrate of ammonium has the disadvantage of making a comparison between the same brands of fertilizer analysed in this laboratory, and the laboratories of the United States, impossible or at best, unsatisfactory. The differences are certainly not great, but they are variable, since the complex nature of mixed fertilizers causes a variable effect, for the two solutions in question. It is, on this account, to be desired that an international method of operating should be determined upon.

I have already drawn your attention to several points in which our present Fertilizer Act is in need of amendment or revision, and I am pleased to know that such revision is contemplated in the immediate future. I beg to recommend the publication of this report as Bulletin No. 151.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



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DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	Number of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
Aug. 7	Bone Meal, B.M.P.	2052	Portland Seed Co., Portland, Oregon.	M. J. Henry, Vancouver, B.C.	
Sept. 19	Fertilizer.....	2053	Fowlers Canadian Co., Hamilton, Ont.	Manufacturers.....	Residue of lard tanks and beef and hog offal.
Aug. 20	Salmon Guano.....	2054	Fraser River Oilery, Vancouver, B.C.	Fraser River Oil and Guano Co.	Fish offal.....
Nov. 21	"Scotia " Basic Slag.	2055	Alex. Cross & Sons, Ltd., Glasgow, Scotland.	R. A. Beckwith, Amherst, N. S.	By-product in the manufacture of steel.
" 21	Nitrate of Soda.....	2056	" " "	" " "	
" 21	Muriate of Potash...	2057	" " "	" " "	
1908.					
Jan. 3	Bone Dust.....	2058		Rufus R. Gage, importer Hamilton, Ont.....	Bone ....
" 7	Sample E.....	2059	Harris Abattoir Co., Ltd., Toronto.	Manufacturers.....	Dried blood, bones and tankage.
" 10	Compound Fertilizer A.	2060	William Davies Co., Ltd. Toronto.	" .....	Blood, bone and dried albuminous matter,
" 10	Concentrated Fertilizer B.	2061	" " "	" .....	Evaporated Tank water refuse.
" 21	Special Potato Manure.	2062		R. A. Beckwith, Amherst, N. S.	Sulphate of Ammonia, high grade German potash, animal matter and superphosphate.
" 21	Dissolved Bone.....	2063	R. A. Beckwith.....	" " "	
" 21	Tankage D .....	2064	Davies Packing Co., Har- riston, Ont.	Davies Packing Co., Har- riston, Ont.	
" 24	Fertilizer (Tankage).	2065	D. B. Martin Co., Ltd., Toronto Junction.	Manufacturers.....	
" 24	Tankage.....	2066	Collingwood Packing Co., Ltd.	" .....	Tankage
" 25	Potato and Truck Manure.	2067	International Seed Co., Rochester, N. Y.	" .....	
" 25	Grain and Grass Fer- tilizer.	2068	International Seed Co., Rochester, N. Y.	" .....	
" 25	Crushed Bone.....	2069	Wm. Davies Co., Ltd., Toronto.	" .....	
" 25	Bone Meal.....	2070	" " "	" .....	
" 28	Tankage.. .....	2071	Davies Ltd., Montréal..	" .....	
" 28	Standard Bone and Potato Fertilizer.	2072	Michigan Carbon Works, Detroit, Mich.	Am. Agr. Chemical Co., Buffalo Sales Dept.	Blood, bone and tankage, mineral phosphates and potash.



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FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										No. of Sample.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total includ- ing that of nitric acid or ammonia if present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	8 cts.	
Guaranteed contents	3.33	4.04				21.12	15.95			29.75	2052
Contents as found...	3.50	4.25			5.87	21.00	15.13		6.05	29.60	
Guaranteed contents											2053
Contents as found...	7.00	8.50	0.12	7.30	2.88	10.30	7.42		5.20	31.44	
Guaranteed contents	8.31	10.00				6.32			6.55		2054
Contents as found.	8.96	10.71	1.00	5.25	1.32	7.57	6.25		5.95	36.02	
Guaranteed contents						10.12	10.12				2055
Contents as found	None	None		10.10	6.10	16.20	10.10		0.25	12.94	
Guaranteed contents	14.82	18.00								50.30	2056
Contents as found ..	14.42	17.60							1.00	49.03	
Guaranteed contents								50.00		50.00	2057
Contents as found...								55.76		55.76	
Guaranteed contents	2.47	3.00				23.00					2058
Contents as found...	2.34	2.84		11.00	11.50	23.10	11.60		2.70	23.70	
Guaranteed contents	9.322	11.32				7.135			6.65		2059
Contents as found...	9.76	11.78	0.10	5.75	1.42	7.27	5.87		6.65	37.91	
Guaranteed contents	7.288	8.85				13.877			11.00		2060
Contents as found...	7.78	9.69	4.25	6.22	2.85	13.32	10.47		10.30	37.69	
Guarantee l contents	13.670	16.60							7.05		2061
Contents as found ..	12.88	15.64	0.25	0.83	0.27	1.35	1.08		6.60	42.51	
Guarantee l contents	1.65—3.29	2.44						7 to 9			2062
Contents as found ..	3.78	4.59	0.37	6.31	0.82	7.50	6.68	7.92	7.20	28.40	
Guaranteed contents	2.47	3.00				20.27					2063
Contents as found .	4.20	5.10		9.85	11.65	21.50	9.85		5.00	28.61	
Guaranteed contents	8.32	10.1				12.46			7.7		2064
Contents as found .	8.54	10.37	None	8.25	3.25	11.50	8.25		9.65	37.38	
Guaranteed contents											2065
Contents as found .	7.70	9.35	0.25	6.98	2.62	9.88	7.23		10.50	33.40	
Guaranteed contents	7.94	9.65				10.58			7.16		2066
Contents as found ..	8.54	10.37	0.25	10.40	0.83	11.48	10.65		4.77	39.32	
Guaranteed contents	1.25 to 2.05	1.50 to 2.50	6 to 8	2 to 3	1 to 2	9 to 13	8 to 11	7 to 10		20.95	2067
Contents as found ..	2.10	2.55	5.00	2.88	2.37	10.25	7.88	7.26	11.40	24.28	
Guaranteed contents	1.25 to 2.00	1.50 to 2.50	8 to 10	2 to 3	1 to 2	11 to 15	10 to 13	2.50 to 3.50		118.85	2068
Contents as found ..	1.32	1.60	5.62	3.98	3.12	12.72	9.60	2.87	12.20	19.42	
Guaranteed contents	4.08	4.96				24.21			7.45		2069
Contents as found ..	4.10	4.98		16.63	7.82	24.25	16.63		5.90	33.66	
Guaranteed contents	3.90	4.74				22.35			7.40		2070
Contents as found...	4.03	4.90		14.63	7.37	22.00	14.63		6.15	31.20	
Guaranteed contents	6.24	7.57				10.72			6.80		2071
Contents as found...	6.96	8.45	0.25	6.98	1.52	9.75	8.23		5.70	30.71	
Guaranteed contents	1.65—2.47	2.3	6—7	2—3	1—2	9—11	8.10	4.5		19.31	2072
Contents as found. .	1.79	2.18	5.37	3.85	1.80	11.02	9.22	4.82	11.20	22.13	



DESCRIPTION OF STANDARD SAMPLES OF

Date when advised.	Designation.	No. of Sample.	Manufacturers.	By whom sent.	From what Materials Produced.
1908.					
Jan. 28	Great EasternNorth-ern Corn Special.	2073	Am, Agr. Chemical Co., Great Eastern Fertilizer Branch, Rutland, Vt.	Manufacturer.....	
" 28	Great Eastern High Grade Potato Manure.	2074	" .....	" .....	
" 28	Great Eastern Potato Manure.	2075	" .....	" .....	
" 28	G. E. Potato Special.	2076	" .....	" .....	
" 28	G. E. General .....	2077	" .....	" .....	
" 28	G. E. Grass and Oats Fertilizer.	2078	" .....	" .....	
" 28	Aroostook Complete Manure.	2079	" .....	" .....	
" 29	Aroostook High Grade.	2080	A. A. C. Co .....	G. E. Fertilizer Branch, Rutland, Vt.	
" 29	Special Potato Mix-ture.	2081	Am. Agr. Co., Buffalo Sales Dept.	Manufacturers, Buffalo..	Animal matter, blood, bone and tankage, mineral phosphates, pot-ash and all treated with sulphuric acid.
" 29	High Grade Potash Compound.	2082	" .....	" .....	" .....
" 29	Bradley's New Method Fertilizer.	2083	" .....	" .....	" .....
" 29	Bradley's B.D. Sea-Fowl Guano.	2084	Am. Agr. Co., Buffalo Sales Department.	Manufacturers, Buffalo..	Animal matter, blood, bone and tankage mineral phosphates pot-ash, and all treated with sulphuric acid.
" 29	Bradley's Complete Manure for Potatoes and Vegetables.	2085	" .....	" .....	" .....
" 29	Crocker's New York Special Phosphate.	2086	" .....	" .....	" .....
" 29	Crocker's Wheat and Corn Fertilizer.	2087	" .....	" .....	" .....
" 29	Crocker's Cabbage and Potato Manure.	2088	" .....	" .....	" .....
" 29	Crocker's Best Pot-ash Fertilizer.	2089	" .....	" .....	" .....
" 29	Crocker's Complete Manure.	2090	" .....	" .....	" .....
" 29	Crocker's Special Potato Manure.	2091	" .....	" .....	" .....
" 29	North-Western Complete Manure.	2092	N. W. Fertilizing Co., Chicago, Ill.	Geo. C. Bingham, Buffalo.	
" 29	Michigan Carbon Fruit and Vine Fertilizer.	2093	Michigan Carbon Works, Detroit.	American Agr. Chemical Co., Buffalo.	



## SESSIONAL PAPER No. 14

## FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										No. of Sample.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total included that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.	
Guaranteed contents	2.06—2.88	2.50—3.50	5—6	3—4	2—3	10—13	8—10	1.50—2.50		18 46	2073
Contents as found ..	2.21	2.69	6.85	2.53	1.57	10.95	9.38	2.10	10.75	21 09	
Guaranteed contents	3.30—4.13	4—5	4—6	2—4	1—2	7—10	6—8	10—12		28 52	2074
Contents as found ..	3.36	4.08	5.70	1.92	1.25	8.87	7.62	9.38	10.05	30 13	
Guaranteed contents	2.06—2.86	2.5—3.5	5—6	3—4	2—3	10—13	8—10	3—4		19 90	2075
Contents as found ..	2.09	2.53	7.25	2.92	1.75	11.92	10.17	3.88	4.85	23 42	
Guaranteed contents	3.30—4.12	4—5	6—8	2—3	1—2	9—13	8—11	7—8		27 92	2076
Contents as found ..	3.51	4.27	6.00	3.83	1.17	11.00	9.83	7.20	6.25	30 90	
Guaranteed contents	0.82—1.65	1—2	5—7	3—4	2—3	10—14	8—11	4—5		16 60	2077
Contents as found ..	1.14	1.39	5.00	4.00	1.70	10.70	9.00	5.63	8.75	20 42	
Guaranteed contents			6—7	5—6	1—2	12—15	11—13	2—3		15 00	2078
Contents as found ..			6.05	4.62	2.15	12.82	10.67	3.07	11.00	16 06	
Guaranteed contents	2.40—3.00	3—4	5—6	1—2	1—2	7—10	6—8	10—12		25 55	2079
Contents as found ..	2.24	2.72	5.15	3.15	1.25	9.55	8.30	10.08	6.55	27 72	
Guaranteed contents	4.00—5.00	5—6	5—7	2—3	1—2	8—12	7—10	7—8		20 10	2080
Contents as found ..	4.48	5.44	5.00	3.65	1.00	9.65	8.65	6.87	10.25	32 42	
Guaranteed contents	0.82—1.65	1—2	7—8	2—3	1—2	10—12	9—11	7—8		20 69	2081
Contents as found ..	1.54	1.87	6.50	2.25	1.72	10.47	8.75	8.05	10.25	24 08	
Guaranteed contents	1.65—2.47	2—3	6—7	2—3	1—2	9—11	8—10	10—11		25 31	2082
Contents as found ..	2.10	2.55	5.25	1.75	2.50	9.50	7.00	9.96	12.05	26 08	
Guaranteed contents	0.82—1.65	1—2	6—7	2—3	1—2	9—11	8—10	2—3		14 49	2083
Contents as found ..	2.10	2.55	5.00	1.97	3.00	9.97	6.97	2.10	9.95	18 31	
Guaranteed contents	2.06—2.88	2.5—3.5	6—7	2—3	1—2	9—11	8—10	1.5—2.5		18 20	2084
Contents as found ..	2.25	2.74	5.25	2.40	2.75	10.40	7.65	2.29	10.35	19 71	
Guaranteed contents	3.29—4.12	4—5	6—7	2—3	1—2	9—11	8—10	7—8		27 89	2085
Contents as found ..	3.36	4.08	5.50	2.82	1.75	10.07	8.32	6.89	10.25	28 54	
Guaranteed contents			8—10	2—3	1—2	11—14	10—12	8—9		20 10	2086
Contents as found ..	0.31	0.37	9.50	0.25	1.25	11.00	9.75	7.74	10.05	20 84	
Guaranteed contents	2.06—2.88	2.5—3.5	6—7	2—3	1—2	9—11	8—10	1.5—2.5		18 20	2087
Contents as found ..	2.41	2.92	5.00	3.38	3.12	11.50	8.38	2.02	10.15	20 87	
Guaranteed contents	2.47—3.30	3—4	6—7	2—3	1—2	9—11	8—10	6—7		24 10	2088
Contents as found ..	3.18	3.91	6.75	2.42	1.25	10.42	9.17	5.89	8.75	27 84	
Guaranteed contents	1.65—2.47	2—3	6—7	2—3	1—2	9—11	8—10	10—11		25 31	2089
Contents as found ..	1.75	2.13	5.25	2.92	2.20	10.37	8.17	10.00	12.25	26 12	
Guaranteed contents	1.82—1.65	1—2	6—7	2—3	1—2	9—11	8—10	4—5		16 49	2090
Contents as found ..	0.95	1.16	5.50	1.42	2.80	9.72	6.92	4.40	12.15	16 63	
Guaranteed contents	3.29—4.12	4—5	6—7	2—3	1—2	9—11	8—10	7—8		27 89	2091
Contents as found ..	3.68	4.47	4.00	3.87	2.50	10.37	7.87	6.91	11.10	29 23	
Guaranteed contents	2.06—2.88	2.5—3.5	6—7	2—3	1—2	9—11	8—10	3—4		19 70	2092
Contents as found ..	2.31	2.91	4.25	3.00	2.75	10.00	7.25	3.49	14.10	20 57	
Guaranteed contents	1.65—2.47	2—3	6—7	2—3	1—2	9—11	8—10	10—11		25 31	2093
Contents as found ..	1.79	2.13	4.65	3.03	2.07	9.75	7.68	10.33	12.35	25 95	



9-10 EDWARD VII., A. 1910

DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1908.					
Jan. 29	M. C. Complete Fertilizer.	2094	Michigan Carbon Co., Detroit.	American Agr. Chemical Co., Buffalo.	.....
" 29	M. C. Defiance Fertilizer.	2095	" "	" "	.....
" 29	M. C. General Crop Fertilizer.	2096	" "	" "	.....
" 29	M. C. Potato and Tobacco Fertilizer.	2097	" "	" "	.....
" 29	Homestead High Grade Garden Vegetable Fertilizer.	2098	" "	" "	.....
" 29	High Grade Fruit and Vegetable Fertilizer.	2099	" "	" "	.....
" 29	Pure Bone Meal ....	2100	W. A. Freeman Co., Ltd., Hamilton, Ont.	Manufacturer.....	Phosphate,, blood, bone, tankage, sulphuric acid, muriate of potash, sulphate of potash, sulphate of ammonia, nitrate of soda.
" 29	Bone and Potash....	2101	" "	" .....	" ..
" 29	Tobacco Manure ....	2102	" "	" .....	" ..
" 29	Celery and Early Vegetable Manure	2103	" "	" .....	" ..
" 29	Potato Manure. ....	2104	" "	" .....	" ..
" 29	Sure Growth Manure	2105	" "	" .....	" ..
" 29	Phosphate Powder..	2106	" "	" .....	" ..
" 29	Tankage Manure....	2107	" "	" " .....	" ..
" 29	Fertilizer .....	2108	Fowlers Can. Co., Ltd., Hamilton, Ont.	" ... ..	Blood, bone and tank residue of hogs and cattle.
" 29	Thomas Phosphate Powder, 17/20.	2109	Works H. & E. Albert, London.	Anglo-Can. Chem. Co., St. John, N.B.	.....
" 30	Thomas Phosphate Powder, 14/16 (ground basic slag).	2110	" "	" " .....	.....
" 30	Alberti Horticultural Manure Brand, A. G.	2111	Chem. Works late H. & E. Albert, Biebrich on Rhine, Germany.	" " .....	.....
Feb. 5	Homestead Corn and Grain Producer.	2112	Michigan Carbon Works, Detroit.	Am. Agr. Chem. Co., Buffalo Sales Dept.	.....
" 5	Homestead Dissolved Bone Phosphate.	2113	" "	" " .....	.....
" 5	Fertilizer .....	2114	London Fertilizer Works, London, Ont.	Manufacturers .....	Bones and meat of animals.



SESSIONAL PAPER No. 14

## FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										No. of Sample.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total includ- ing that of nitric acid or ammonia if present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.	
Guaranteed contents	1.65—2.47	2—3	6—7	2—3	1—2	9—11	8—10	4—5		19 31	2094
Contents as found...	1.88	2.28	5.17	3.56	2.37	11.10	8.73	4.32	12.15	21 54	
Guaranteed contents	1.65—2.47	2—3	6—7	2—3	1—2	9—11	8—10	2—3		17 31	2095
Contents as found...	1.96	2.38	5.37	3.71	1.67	9.75	8.08	2.31	13.35	20 00	
Guaranteed contents	0.82—1.65	1—2	6—7	2—3	1—2	9—11	8—10	4—5		16 49	2096
Contents as found...	0.91	1.11	4.50	3.80	1.95	10.25	8.30	4.15	13.65	17 41	
Guaranteed contents	2.06—2.88	2.5—3.5	6—7	2—3	1—2	9—11	8—10	3—4		19 70	2097
Contents as found...	2.31	2.81	4.25	3.28	2.22	9.75	7.53	4.05	11.45	21 28	
Guaranteed contents	2.06—2.88	2.5—3.5	6—7	2—3	1—2	9—11	8—10	6—7		22 70	2098
Contents as found...	2.16	2.62	5.52	4.23	1.25	11.00	9.75	6.31	12.10	25 31	
Guaranteed contents	3.29—4.12	4—5	6—7	2—3	1—2	9—11	8—10	7—8		27 89	2099
Contents as found...	4.40	5.34	5.50	3.05	1.10	10.05	8.55	6.97	11.10	32 34	
Guaranteed contents	2.47—4.12	3—5				20.25					2100
Contents as found...	3.29	4.00		13.75	7.75	21.50	13.75		8.60	28 64	
Guaranteed contents	1.65—2.47	2—3				9—10		6—8			2101
Contents as found...	3.02	3.67	1.22	4.95	2.95	9.12	6.17	6.29	10.10	24 35	
Guaranteed contents	2.47—3.29	3—4				7—9		4—5			2102
Contents as found...	3.15	3.82	1.12	4.76	3.62	9.50	5.88	5.23	9.80	23 61	
Guaranteed contents	4.12—5.77	5—7				9—10		5—7			2103
Contents as found...	5.50	6.68	0.85	6.03	2.37	9.25	6.88	4.96	9.15	32 02	
Guaranteed contents	2.47—3.29	3—4				8—10		5—7			2104
Contents as found...	3.05	3.71	0.87	5.33	3.35	9.55	6.20	5.96	7.45	24 24	
Guaranteed contents	2.88—4.12	3.5—5				8—10		3—4			2105
Contents as found...	3.43	4.16	0.47	5.93	2.90	9.30	6.40	4.61	6.95	24 23	
Guaranteed contents						13—18					2106
Contents as found...				11.37	7.37	18.74	11.37		10.30	14 72	
Guaranteed contents	1.65—5.77	2—7				12—15					2107
Contents as found...	7.08	8.60	0.25	9.50	2.25	12.00	9.75		10.15	35 50	
Guaranteed contents											2108
Contents as found...	7.06	8.57	0.12	5.33	1.30	6.75	5.45		6.85	28 99	
Guaranteed contents						17.20					2109
Contents as found...				13.00	5.25	18.25	13.00		Trace	15 88	
Guaranteed contents						14.16					2110
Contents as found...				12.45	4.30	16.75	12.45		Trace	14 99	
Guaranteed contents	11.90	14.45	11.10					15.16		68 94	2111
Contents as found...	12.07	14.65	11.10	None	Trace	11.10	11.10	15.25	13.95	69 61	
Guaranteed contents	1.65—2.47	2—3	6—7	2—3	1—2	9—11	8—10	2—3		17 31	2112
Contents as found...	2.66	2.87	6.17	3.53	2.30	12.00	9.70	2.24	9.45	23 26	
Guaranteed contents			10—12	2—3	1—2	13—15	12—14			14 50	2113
Contents as found...			10.40	2.05	1.92	14.37	12.45		10.90	15 31	
Guaranteed contents											2114
Contents as found...	4.24	6.36	Trace	8.32	2.00	10.32	8.32		10.50	23 32	



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DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
Feb.	5 Watch 'Em Grow...	2115	Standard Fert. & Chem. Co., Ltd., Smith's Falls	Manufacturers.....	Nitrate of soda, ammonia, potash and Magnesia salts. Bone, superphosphate of lime and bone meal.
"	7 Fertilizer Tankage..	2116	Laing Packing and Provision Co., Montreal.	" .....	Bones and offal of hogs, cattle and sheep.
"	7 Dried Blood.....	2117	" " ..	" .....	Blood of hogs, cattle and sheep.
"	13 Ground Bone.....	2118	The Pidgeon Fertilizer Co., Ltd., Windsor, N.S.	" .....	Nitrate of soda, dried blood and tankage, ground bone, muriate of potash, potash salts, rock phosphate, sulphuric acid and sulphate of ammonia.
"	13 Intense Brand ....	2119	" " ..	" .....	" ..
"	13 Potato Manure .....	2120	" " ..	" .....	" ..
"	13 Potato Guano .....	2121	" " ..	" .....	" ..
"	13 Brunswick Brand. ..	2122	" " ..	" .....	" ..
"	13 Eureka Phosphate ..	2123	" " ..	" .....	" ..
"	14 Swifts Lowell Cereal Fertilizer.	2124	Swift's Lowell Fertilizer Co., Boston, Mass.	" .....	Blood meat, bone, bone black, bone phosphates, nitrate of soda or sulphate of ammonia and sulphate or muriate of potash.
"	14 Empress Brand. ....	2125	" " ..	" .....	" ..
"	14 Bone Fertilizer.....	2126	" " ..	" .....	" ..
"	14 Animal Brand.....	2127	" " ..	" .....	" ..
"	14 Potato Manure.....	2128	" " ..	" .....	" ..
"	14 Potato Phosphate...	2129	" " ..	" .....	" ..
"	14 Potato Grower... ..	2130	" " ..	" .....	" ..
"	14 Swifts Superior Fertilizer.	2131	" " ..	" .....	" ..
"	14 Lowell Ground Bone.	2132	Swift's Lowell Fertilizer Co., Mass.	" .....	" ..



SESSIONAL PAPER No. 14

## FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										Number of Sample.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total includ- ing that of nitric acid or ammonia of present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.	
Guaranteed contents	3.29	4					9	8		29 08	2115
Contents as found .	4.02	4.88	11.00	0.85	1.55	13.40	11.85	7.43	6.70	35 70	
Guaranteed contents	7.66	9.31				10.46			10.60		2116
Contents as found .	7.56	9.18	5.00	2.50	2.95	10.45	7.50		10.00	33 83	
Guaranteed contents	12.84	15.60							17.11		2117
Contents as found .	13.22	15.95	0.50	0.25	None	0.75	0.75		15.95	43 18	
Guaranteed contents	2.47	3.00				20.00					2118
Contents as found .	2.76	3.37		13.00	11.00	24.00	13.00		4.65	26 98	
Guaranteed contents	2.06	2.50				7.00		4.60			2119
Contents as found .	2.10	2.55	6.05	1.50	0.25	7.80	7.55	3.86	12.40	19 99	
Guaranteed contents	1.65—2.47	2—3				9—10	7—8	5—6		18 91	2120
Contents as found .	2.03	2.45	5.80	0.35	1.55	7.70	6.15	5.31	9.10	20 02	
Guaranteed contents	1.65—2.47	2—3					7—8	2.50		15 81	2121
Contents as found .	1.74	2.11	4.15	2.55	0.37	7.07	6.70	5.57	11.80	19 38	
Guaranteed contents	3.29	4.00				6.00		8.00			2122
Contents as found .	3.12	3.79	5.42	1.00	0.50	6.92	6.42	8.53	12.30	26 89	
Guaranteed contents	2.06	2.50					8.00	1.50		17 30	2123
Contents as found .	2.11	2.57	7.50	1.63	0.62	9.75	9.13	3.84	10.70	21 99	
Guaranteed contents	0.82	1.00			1.00	8	7	1		11 79	2124
Contents as found .	0.98	1.19	5.30	1.88	0.82	8.00	7.18	1.23	12.50	13 24	
Guaranteed contents	1.24	1.50			1.00	8	7	2		14 22	2125
Contents as found .	1.29	1.56	5.37	3.88	0.62	9.87	9.25	2.16	6.70	17 44	
Guaranteed contents	1.65	2.00				9	8	3		17 38	2126
Contents as found .	2.07	2.52	5.00	3.63	0.87	9.50	8.63	3.66	4.75	20 54	
Guaranteed contents	2.47	3.00				10	8	4		21 80	2127
Contents as found .	2.55	3.09	5.32	4.48	0.95	10.75	9.80	4.19	9.30	24 46	
Guaranteed contents	1.65	2.00				8	7	4		17 61	2128
Contents as found .	1.54	1.87	5.10	3.75	0.62	9.47	8.85	4.44	6.35	20 11	
Guaranteed contents	2.47	3.00				9	8	6		23 50	2129
Contents as found .	2.60	2.96	4.80	5.32	0.95	11.07	10.12	6.56	6.40	27 30	
Guaranteed contents	3.29	4.00				7	6	10		28 09	2130
Contents as found .	3.96	4.78	4.17	4.20	0.75	9.12	8.37	10.50	4.50	33 81	
Guaranteed contents	3.70	4.50			1	8	7	10		30 58	2131
Contents as found .	4.09	4.96	4.45	4.20	0.70	9.37	8.67	10.00	7.60	34 10	
Guaranteed contents	2.47	3				25					2132
Contents as found .	2.63	3.19		17.50	7.25	24.75	17.50		4.50	29 84	



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DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent,	From what Materials Produced.
1908.					
Feb. 14	Peerless Fertilizer...	2133	New England Fertilizer Co., Boston.	Manufacturers .....	Blood, meat, bone, bone black, bone phosphate, nitrate soda or sulphate ammonia and sulphate of potash or muriate of potash.
" 14	Potato Fertilizer....	2134	" .....	" .....	" ..
" 14	New England Corn and Grain.	2135	" .....	" .....	" ..
" 14	N.E. Potato Grower	2136	" .....	" .....	" ..
" 14	N.E. Ground Bone..	2137	" .....	" .....	" ..
" 14	Essex XXX Fish and Potash.	2138	Essex Fertilizer Co., Boston.	" .....	Fish meat, bone, bone black, bone phosphate, nitrate of soda or sulphate of ammonia and sulphate or muriate of potash.
" 14	Essex MarketGarden and Potato Manure	2139	" .....	" .....	" ..
" 14	Essex Complete Manure for Potatoes, Roots and Vegetables.	2140	" .....	" .....	" ..
" 14	Essex Ground Bone	2141	" .....	" .....	" ..
" 14	Bradley's Superphosphates forOrchards	2142	Am. Agr. Chemical Co., Boston Sales Dept.	" .....	Bone black, phosphateguano muriate or sulphate of potash.
" 14	Bradley's Potato Fertilizer.	2143	" .....	" .....	Bone black, animal bone, phosphate guano, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash sulphuric acid.
" 14	Bradley's XL Superphosphate of Lime.	2144	" .....	" .....	" ..
" 14	Bradley's Farmers New Method Fertilizer.	2145	" .....	" .....	" ..
" 14	Bradley's Fine Ground Bone.	2146	" .....	" .....	" ..
" 14	Bradley's Eclipse Phosphate.	2147	" .....	" .....	" ..



SESSIONAL PAPER No. 14

FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.								Potash.	Moisture.	Relative value per ton of 2,000 lbs.	No. of Sample.
	Nitrogen.		Phosphoric Acid.									
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.					
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.		
Guaranteed contents	0.82	1			1	8	7	1		11.79	2133	
Contents as found..	1.04	1.26	5.75	3.30	0.70	9.75	9.05	1.41	4.95	15.69		
Guaranteed contents	1.65	2				8	7	4		17.61	2134	
Contents as found..	1.74	2.11	5.57	3.06	0.62	9.25	8.63	4.57	9.10	20.72		
Guaranteed contents	1.24	1.50				8	7	2		14.22	2135	
Contents as found..	1.44	1.75	5.55	1.40	1.50	8.45	6.95	2.56	7.70	16.11		
Guaranteed contents	2.47	3				7	6	10		25.30	2136	
Contents as found..	2.52	3.06	4.95	0.60	2.45	8.00	5.55	10.94	6.70	26.84		
Guaranteed contents	2.47	3				25					2137	
Contents as found..	2.51	3.03		14.23	10.87	25.10	14.23		10.35	26.95		
Guaranteed contents	2.06	2.05			1	9	8	3		19.10	2138	
Contents as found..	2.14	2.60	7.52	1.36	2.12	11.00	5.88	3.41	7.80	21.84		
Guaranteed contents	2.06	2.5			1	9	8	5		21.10	2139	
Contents as found..	2.17	2.63	4.85	3.15	2.75	10.75	8.00	5.54	7.15	23.03		
Guaranteed contents	3.29	4			1	7	6	10		28.09	2140	
Contents as found..	3.61	4.39	4.42	2.75	2.25	9.42	7.17	10.35	6.30	31.63		
Guaranteed contents	2.47	3				23	10			22.80	2141	
Contents as found..	2.63	3.20		14.65	9.10	23.75	14.65		5.35	27.26		
Guaranteed contents			11-13	3-4	1-2	15-19	14-17			16.80	2142	
Contents as found..	trace.	trace.	12.00	1.60	3.25	16.85	13.60		10.70	17.14		
Guaranteed contents	2.06-2.88	2.5-3.5	5-6	3-4	2-3	10-13	8-10	3-4		19.90	2143	
Contents as found..	2.24	2.72	6.00	1.75	3.00	10.75	7.75	3.59	11.40	21.23		
Guaranteed contents	2.06-2.88	2.5-3.5	5-6	3-4	2-3	10-13	8-10	1.5-2.5		18.40	2144	
Contents as found..	2.27	2.75	6.62	0.55	3.00	10.17	7.17	1.73	12.15	18.90		
Guaranteed contents	1.03-2.50	1.25-3	6-8	2-4	2-3	10-15	8-12	2-3		15.50	2145	
Contents as found..	1.48	1.80	6.90	1.95	2.15	11.00	8.85	2.10	13.35	18.20		
Guaranteed contents	2.50-3.25	3-4				21.23					2146	
Contents as found..	2.91	3.54		19.50	7.00	26.50	19.50		5.75	33.44		
Guaranteed contents	1.03-2.50	1.25-3.00	6-8	2-4	2-3	10-15	8-12	2-3		15.50	2147	
Contents as found..	1.31	1.60	6.12	2.73	2.25	11.10	8.85	2.20	6.15	17.68		



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DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1908.					
Feb. 14	Bradley's Eureka Fertilizer.	2148	Am. Agr. Chemical Co., Boston Sales Dept.	Manufacturers....	Bone black, animal bone, phosphate guano, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate potash, sulphuric acid.
" 14	Bradley's Alkaline Bone with Potash.	2149	" "	" .....	" ..
" 14	Bradley's Complete Manure with 10 per cent Potash.	2150	" "	" .....	" ..
" 14	Bradley's High Grade Fertilizer with 10 per cent Potash.	2151	" "	" .....	" ..
" 14	Read's Standard Superphosphate.	2152	" "	" .....	" ..
" 14	Read's Sure Catch Fertilizer.	2153	" "	" .....	Bone black and phosphate-guano, muriate or sulphate potash.
" 14	Read's Fish Bone and Potash.	2154	" "	" .....	Bone black, animal bone, phosphate guano, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate of potash, sulphuric acid.
" 14	Read's Practical Potato Special.	2155	" "	" .....	" ..
" 14	Read's Vegetable and Vine Fertilizer.	2156	" "	" .....	" ..
" 14	Read's Potato Manure.	2157	" "	" .....	" ..
" 14	Read's High Grade Farmers Friend.	2158	" "	" .....	" ..
" 14	Tucker's Imperial Bone Superphosphate.	2159	" "	" .....	" ..
" 14	Williams & Clark's American Potato Manure.	2160	" "	" .....	" ..
" 14	Pacific Potato Special.	2161	" "	" .....	" ..
" 14	Pacific Nobsque Guano.	2162	" "	" .....	" ..
" 14	Pacific Fine Ground Bone.	2163	" "	" .....	" ..



## SESSIONAL PAPER No. 14

## FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										Relative value per ton of 2,000 lbs.	No. of Sample.
	Nitrogen.					Phosphoric acid.						
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.			
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	& cts.		
Guaranteed contents	1.03—2.50	1.25—3.00	6—8	2—4	2—3	10—15	8—12	2—3		15.50	2148	
Contents as found..	1.51	1.84	5.97	1.45	3.25	10.67	7.42	2.16	13.80	17.03		
Guaranteed contents			5—7	5—6	1—2	12—15	11—13	2—3		13.80	2149	
Contents as found..			6.92	5.58	1.80	14.30	12.50	1.98	8.45	16.96		
Guaranteed contents	3.30—4.13	4—5	4—6	2—4	1—2	7—10	6—8	10—12		28.52	2150	
Contents as found...	3.30	4.11	5.85	1.60	1.80	9.25	7.45	9.57	10.15	30.42		
Guaranteed contents	2.40—3.00	3—4	5—6	1—2	1—2	7—10	6—8	10—12		25.56	2151	
Contents as found...	2.69	3.26	5.17	2.15	2.10	9.42	7.32	9.84	8.55	28.19		
Guaranteed contents	0.82—1.65	1—2	5—7	3—4	2—3	10—14	8—11	4—5		16.69	2152	
Contents as found	1.16	1.41	5.42	2.71	2.37	10.50	8.13	5.44	6.55	19.58		
Guaranteed contents			6—7	4—5	1—2	11—14	10—12	2—3		13.90	2153	
Contents as found...			6.82	4.20	2.10	13.12	11.02	1.87	10.40	15.30		
Guaranteed contents	2—3	2.40—3.60	3—4	1—2	1—2	5—8	4—6	4—6		15.80	2154	
Contents as found...	2.30	2.81	5.90	2.35	2.12	10.37	8.25	4.34	14.60	22.49		
Guaranteed contents	0.82—1.55	1—2	2—3	2—3	1—2	5—8	4—6	8—10		15.69	2155	
Contents as found...	1.12	1.36	5.25	1.42	2.75	9.42	6.67	9.07	14.00	21.57		
Guaranteed contents	2.06—2.88	2.5—3.5	5—6	3—4	2—3	10—13	8—10	6—7		22.90	2156	
Contents as found...	2.58	3.13	6.05	2.13	1.92	10.10	8.18	6.50	13.90	25.45		
Guaranteed contents	2.4—3	3—4	5—6	1—2	1—2	7—10	6—8	10—12		25.56	2157	
Contents as found...	2.86	3.47	5.42	1.28	2.55	9.25	6.70	9.84	7.25	28.24		
Guaranteed contents	3.5—4.13	4—5	4—6	2—4	1—2	7—10	6—8	10—12		29.20	2158	
Contents as found...	3.85	4.67	6.00	1.55	1.80	9.35	7.55	9.82	10.40	32.36		
Guaranteed contents	1.03—2.50	1.25—3	6—8	2—4	2—3	10—15	8—12	2—3		15.50	2159	
Contents as found...	1.18	1.43	6.50	2.25	2.50	11.25	8.75	2.81	12.40	17.85		
Guaranteed contents	2.06—2.88	2.5—3.5	5—6	3—4	2—3	10—13	8—10	3—4		19.90	2160	
Contents as found...	2.16	2.62	5.97	2.73	2.80	11.50	8.70	3.57	11.10	21.92		
Guaranteed contents	2.06—2.88	2.5—3.5	5—6	3—4	2—3	10—13	8—10	3—4		19.90	2161	
Contents as found...	2.27	2.75	5.62	3.21	2.82	11.65	8.83	3.47	11.10	22.31		
Guaranteed contents	1.03—2.5	1.25—3.0	6—8	2—4	2—3	10—15	8—12	2—3		15.50	2162	
Contents as found...	1.23	1.50	6.15	2.05	2.10	10.30	8.20	2.18	13.35	16.63		
Guaranteed contents	2.5—3.25	3—4				21—23					2163	
Contents as found...	2.23	2.70		17.20	8.30	25.50	17.20		5.10	28.99		



DESCRIPTION OF STANDARD SAMPLES OF

Date when advised.	Designation.	No. of sample.	Manufacturer.	By whom sent.	From what Materials Produced.
1907.					
Feb. 14	Soluble Pacific Guano	2164	Am. Agr. Chem. Co., Boston Sales Dept.	Manufacturers .....	Bone black, animal bone, phosphate, guano, dried fish, meat or blood, nitrate of soda or sulphate of ammonia, sulphate or muriate potash, sulphuric acid.
"	14 Quinnipiac Climax Phosphate for all Crops.	2165	" " ..	" .....	" ..
"	14 Quinnipiac Potato Manure.	2166	" " ..	" .....	" ..
"	14 Quinnipiac Market Garden Manure.	2167	" " ..	" .....	" ..
"	14 Cumberland Super-phosphate.	2168	" " ..	" .....	" ..
"	14 Cumberland Potato Fertilizer.	2169	" " ..	" .....	" ..
"	14 Cumberland Fine Ground Bone.	2170	" " ..	" .....	" ..
"	14 Standard Fertilizer.	2171	" " ..	" .....	" ..
"	14 Standard Special for Potatoes.	2172	" " ..	" .....	" ..
"	14 Darling's Blood, Bone and Potash.	2173	" " ..	" .....	" ..
"	14 Clark's Cove, Great Plant Manure.	2174	" " ..	" .....	" ..
"	14 Highgrade Fertilizer, with 10% Potash.	2175	" " ..	" .....	" ..
"	21 Croker's General Crop Fertilizer.	2176	Am. Agr. Chem. Co., Buffalo Sales Dept.	" .....	" ..
"	21 Special Potato Phosphate.	2177	Nova Scotia Fertilizer Co., Halifax, N.S.	" .....	Bone, char-bone dried blood, tankage, meat, fish, bone phosphate, sulphate of ammonia, nitrate of soda, muriate or sulphate of potash, sulphuric acid.
"	21 Bone Meal....	2178	" " ..	" .....	" ..
"	21 10% Potato Phosphate.	2179	" " ..	" .....	" ..
"	14 Ceres Superphosphate	2180	Nova Scotia Fertilizer Co., Halifax, N.S.	" .....	Bone char-bone, dried blood, tankage meat, fish, bone phosphate, sulphate of ammonia, nitrate soda, muriate or sulphate of potash, sulphuric acid



SESSIONAL PAPER No. 14

## FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.										No. of Sample.
	Nitrogen.		Phosphoric Acid.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total includ- ing that of nitric acid or ammonia if present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.				
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	3 cts.	
Guaranteed contents	2.06—2.88	2.5—3.5	5—6	3—4	2—3	10—13	8—10	1.5—2.5	.....	18 40	2164
Contents as found ..	2.00	2.53	6.72	1.21	3.37	11.30	7.93	1.68	10.20	19 19	
Guaranteed contents	1.03—1.65	1.25—3.00	6—8	2—4	2—3	10—15	8—12	2—3	.....	15 50	2165
Contents as found ..	1.12	1.36	5.80	1.88	2.82	10.50	7.68	3.51	14.05	17 19	
Guaranteed contents	2.5—3.25	3—4	5—6	1—2	2—3	8—11	6—8	5—6	.....	21 20	2166
Contents as found ..	2.13	2.58	4.00	2.65	3.35	10.00	6.65	5.56	13.00	21 52	
Guaranteed contents	3.30—4.12	4—5	6—8	2—3	1—2	9—13	8—11	7—8	.....	27 92	2167
Contents as found ..	2.16	2.62	6.15	2.52	2.25	10.92	8.67	7.70	8.50	25 87	
Guaranteed contents	2.06—2.88	2.5—3.5	5—6	3—4	2—3	10—13	8—10	1.5—2.5	.....	18 40	2168
Contents as found ..	1.53	1.85	6.92	3.51	2.32	12.75	10.43	1.87	10.60	19 93	
Guaranteed contents	2.06—2.88	2.5—3.5	5—6	3—4	2—3	10—13	8—10	3—4	.....	19 90	2169
Contents as found ..	1.74	2.11	6.35	2.05	2.77	11.17	8.40	3.72	12.25	20 34	
Guaranteed contents	2.5—3.25	3—4	.....	.....	.....	21—23	.....	.....	.....	.....	2170
Contents as found ..	2.38	2.89	.....	14.93	9.82	24.75	14.93	.....	5.15	27 46	
Guaranteed contents	2.06—2.88	2.5—3.5	5—6	3—4	2—3	10—13	8—10	1.5—2.5	.....	18 40	2171
Contents as found ..	1.40	1.70	6.62	2.81	2.32	11.75	9.43	1.77	12.00	18 26	
Guaranteed contents	2.06—2.88	2.5—3.5	3—6	3—4	2—3	10—13	8—10	3—4	.....	17 50	2172
Contents as found ..	1.76	2.14	5.50	3.65	2.35	11.50	9.15	3.66	11.95	20 96	
Guaranteed contents	4.10—5	5—6	5—7	2—3	1—2	8—12	7—10	7—8	.....	29 44	2173
Contents as found ..	3.75	4.50	5.35	2.10	1.70	9.15	7.45	7.12	9.95	29 11	
Guaranteed contents	3.3—4.12	4—5	6—8	2—3	1—2	9—13	8—11	7—8	.....	27 92	2174
Contents as found ..	3.65	4.44	5.75	2.00	1.87	10.52	8.65	7.87	7.70	30 93	
Guaranteed contents	2.4—3	3—4	5—6	1—2	1—2	7—10	6—8	10—12	.....	25 56	2175
Contents as found ..	2.73	3.30	5.37	1.95	2.05	9.37	7.32	10.29	8.40	28 78	
Guaranteed contents	0.82—1.65	1—2	5—6	2—3	1—2	8—10	7—9	1—2	.....	12 29	2176
Contents as found ..	0.87	1.05	5.40	2.02	2.00	9.42	7.42	1.31	11.85	13 57	
Guaranteed contents	1.65—2.47	2—3	.....	.....	2—3	8—11	6—8	7—9	.....	19 81	2177
Contents as found ..	2.87	3.49	6.20	1.30	1.00	8.50	7.50	10.13	9.15	29 06	
Guaranteed contents	2.47—3.29	3—4	.....	.....	.....	.....	.....	.....	.....	.....	2178
Contents as found ..	4.38	5.32	.....	15.75	9.50	25.25	15.75	.....	8.20	34 19	
Guaranteed contents	2.06—2.47	2.5—3	.....	.....	2—3	8—11	6—8	10—12	.....	24 20	2179
Contents as found ..	1.69	2.06	5.85	1.58	1.32	8.75	7.43	10.06	9.65	24 96	
Guaranteed contents	1.65—2.47	2—3	.....	.....	2—3	9—12	7—9	2—3	.....	15 91	2180
Contents as found ..	1.75	2.13	7.22	1.38	1.80	10.40	8.60	4.61	9.90	21 28	



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## DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
Feb. 14	Potato Phosphate...	2181	Nova Scotia Fertilizer Co., Halifax, N.S.	Manufacturers....	Bone char - bone, dried blood, tank- age meat, fish bone phosphate, sulphate of am- monia, nitrate of soda, muriate or sulphate of pot- ash, sulphate acid.
" 14	Tankage.....	2182	Gunns Ltd. Toronto Junc- tion.	" .....	" .....
" 22	Soluble Bone....	2183	Buffalo Fertilizer Co., Buffalo, N.Y.	" .....	Ammonia from ani- mal matter tank- age and blood phosphoric acid from phosphate rock, acidulated and from fine ground bone and the potash from muriate of potash
" 22	Extra Bone and Pot- ash.	2184	" .....	" .....	" ..
" 22	Fish Guano.....	2185	" .....	" .....	" ..
" 22	Farmers Choice....	2186	" .....	" .....	" ..
" 22	Ideal Wheat and Corn	2187	" .....	" .....	" ..
" 22	Celery and Potato Special.	2188	" .....	" .....	" ..
Mar. 3	Reid's Superphos- phate	2189	Thomas Reid, St. John, N.B.	" .....	Calcined bones, old meat, fish offal, kainite, sulphate of ammonia, &c.
" 3	Slag.. .....	2190	" .....	Nova Scotia Fertilizer Co., Halifax.	" .....
" 5	Stockbridge Special Complete Manure for Potatoes and Vegetables.	2191	Bowker Fertilizer Co., Boston.	Manufacturers.....	Bone, bone-black, phosphatic guano, bone phosphates, dried blood meat or fish, sulphate of ammonia or nitrate of soda, sulphate of pot- ash or muriate of potash and sul- phuric acid.
" 5	Bowker's Market Gar- den Fertilizer.	2192	" .....	" .....	" ..
" 5	Bowker's Vermont Phosphate.	2193	" .....	" .....	" ..
" 5	Bowker's Potato and Vegetable Phos- phate.	2194	" .....	" .....	" ..
" 5	Bowker's Corn Phos- phate.	2195	" .....	" .....	" ..



SESSIONAL PAPER No. 14

FERTILIZERS REGISTERED FOR THE YEAR 1908.

RESULTS OF ANALYSIS.											
Nitrogen.		Phosphoric Acid.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	No. of Sample.	
Total includ- ing that of nitric acid or ammonia if present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total	Total available.					
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.					
Guaranteed contents	1.65—2.47	2—3			2—3	9—12	7—9	4—5		17.91	2181
Contents as found.	1.68	2.04	8.75		1.30	10.02	8.72	4.82	9.70	21.42	
Guaranteed contents	7.42	9.06							6.9		2182
Contents as found.	7.25	8.81	1.62	6.78	2.35	10.75	8.40		12.15	33.31	
Guaranteed contents							14			15.40	2183
Contents as found.			11.90	0.28	4.52	16.70	12.18		8.20	15.94	
Guaranteed contents							10	8		19.00	2184
Contents as found.	0.49	0.60	10.65	1.17	4.20	15.42	11.22	8.11	5.10	24.58	
Guaranteed contents	0.82	1					9	2		14.52	2185
Contents as found.	0.98	1.19	6.62	0.93	4.30	11.85	7.55	2.74	12.25	16.13	
Guaranteed contents	0.82	1					8	5		16.59	2186
Contents as found.	1.01	1.22	5.75	0.80	3.30	9.85	6.55	6.18	14.40	18.38	
Guaranteed contents	1.65	2					9	5		20.51	2187
Contents as found.	1.69	2.06	5.37	1.55	3.75	10.67	6.92	4.84	10.45	19.86	
Guaranteed contents	1.65	2					8	10		24.41	2188
Contents as found.	1.72	2.09	4.62	1.40	3.65	9.67	6.02	10.81	13.60	24.84	
Guaranteed contents											2189
Contents as found.	0.69	0.83	2.37	3.20	4.35	9.92	5.57		16.55	10.02	
Guaranteed contents							16			17.60	2190
Contents as found.					5.37	17.60	12.23			15.06	
Guaranteed contents	3.29	4				7	6	10		28.09	2191
Contents as found.	3.11	3.77	5.37	1.88	1.25	8.50	7.25	9.69	7.45	29.15	
Guaranteed contents	2.47	3				7	6	10		25.30	2192
Contents as found.	2.72	3.30	4.67	2.06	2.02	8.75	6.73	10.13	6.55	27.85	
Guaranteed contents	2.47	3				10	8	4		21.80	2193
Contents as found.	2.65	3.11	4.92	3.13	2.35	10.40	8.05	4.82	12.80	23.88	
Guaranteed contents	1.65	2				9	8	2		16.71	2194
Contents as found.	1.68	2.04	6.12	2.81	2.77	11.70	8.93	2.10	9.60	19.08	
Guaranteed contents	1.65	2				9	8	2		16.71	2195
Contents as found.	1.74	2.11	5.92	2.86	2.37	11.15	8.78	2.43	11.30	19.31	



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DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
March 5	Bowker's Square Brand Bone and Potash.	2196	Bowker Fertilizer Co., Boston.	Manufacturers.....	Bone, bone-black, phosphateguano, bone phosphates, dried blood meat or fish, sulphate of ammonia or nitrate of soda, sulphate of potash or muriate of potash and sulphuric acid.
" 5	Bowker's Farm and Garden Phosphate.	2197	" "	" .....	"
" 5	Bowker's Sure Crop Phosphate.	2198	" "	" .....	"
" 5	Bowker's Potash Bone Phosphate.	2199	" "	" .....	"
" 5	Bowker's 6% Potash Fertilizer.	2200	" "	" .....	"
" 5	Bowker's 10% Manure	2201	" "	" .....	"
" 5	Bowker's Superphosphate with Potash.	2202	" "	" .....	"
" 5	Bowker's Fresh Ground Bone.	2203	" "	" .....	"
" 5	Bowker's Nitrate of Soda.	2204	" "	" .....	"
" 5	Bowker's Muriate of Potash.	2205	" "	" .....	"
" 5	Bowker's Dissolved Bone-black.	2206	" "	" .....	"
" 7	H. Fertilizer..	2207	W. Harris & Co., Toronto	" .....	Flesh and blood...
" 7	Bone Meal.....	2208	" "	" .....	Bones.....
" 9	Imperial Superphosphate.	2209	Provincial Chemical Fertilizer Co., St. John, N.B.	" .....	" .....
" 9	Complete Aroostook Potato.	2210	" "	" .....	" .....
" 9	Bone, Blood and Potash.	2211	" "	" .....	" .....
" 9	Special Potato Phosphate.	2212	Provincial Chemical Fertilizer Co., St. John, N.B.	" .....	.....
" 9	Victor Guano.....	2213	" "	" .....	.....
" 9	Bone Meal.....	2214	" "	" .....	.....
" 10	Virginia Tobacco Fertilizer.	2215	Am. Agr. Chem. Co., Buffalo Sales Dept.	" .....	Animal matter mineral phosphates and potash, all treated with sulphuric acid.



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## FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.									Relative value per ton of 2,000 lbs.	No. of Sample.
	Nitrogen.		Phosphoric Acid.								
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.			
p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	& cts.	
Guaranteed contents	1.65	2				7	6	2		14.51	2196
Contents as found ..	1.65	2.01	6.20	1.82	2.85	10.87	8.02	2.53	7.85	18.44	
Guaranteed contents	1.65	2				9	8	2		16.71	2197
Contents as found ..	1.71	2.07	6.62	1.96	2.62	11.20	8.58	2.60	8.05	19.30	
Guaranteed contents	0.82	1				9	8	2		13.89	2198
Contents as found ..	0.91	1.10	5.75	3.13	1.57	10.45	8.88	1.95	11.15	15.86	
Guaranteed contents	0.82	1				8	6	2		11.99	2199
Contents as found ..	0.98	1.19	3.42	4.38	2.00	9.80	7.80	2.20	14.25	15.05	
Guaranteed contents	0.82	1				7	6	6		15.69	2200
Contents as found ..	0.84	1.02	5.70	1.85	1.45	9.00	7.55	6.14	10.15	18.31	
Guaranteed contents	0.82	1				6	5	10		18.59	2201
Contents as found ..	0.81	0.99	4.65	2.67	1.05	8.37	7.32	9.84	9.90	21.43	
Guaranteed contents						11	10	2		13.30	2202
Contents as found ..	0.78	0.96	5.57	3.98	3.50	13.05	9.55	2.10	10.00	16.86	
Guaranteed contents	2.47	3				22.18					2203
Contents as found ..	2.29	2.79		15.55	8.75	24.30	15.55		4.55	27.52	
Guaranteed contents	14.83	18.00								50.42	2204
Contents as found ..	14.62	17.75							0.88	49.71	
Guaranteed contents								50		50.00	2205
Contents as found ..								48.20	2.30	48.20	
Guaranteed contents							15			16.50	2206
Contents as found ..	Trace.	Trace.	12.10	2.90	0.25	15.25	15.00		14.05	17.79	
Guaranteed contents	7.13	8.66				8.43					2207
Contents as found ..	7.03	8.53	0.20	5.35	2.25	7.80	5.55		8.35	29.30	
Guaranteed contents	1.96	2.38				27.23					2208
Contents as found ..	1.43	1.73		17.05	8.75	25.80	17.05		5.30	25.96	
Guaranteed contents	2.80	3.4					10.3	2.4		23.25	2209
Contents as found ..	2.52	3.06	6.75	3.18	2.12	12.05	9.93	2.06	8.90	22.86	
Guaranteed contents	3.02	3.67					8.57	9.72		29.42	2210
Contents as found ..	3.09	3.76	4.75	2.17	0.85	7.77	6.92	10.94	7.65	29.79	
Guaranteed contents	1.96	2.38					8.69	5.00		21.22	2211
Contents as found ..	1.96	2.38	4.20	4.00	2.00	10.20	8.20	5.07	3.70	21.77	
Guaranteed contents	2.55	3.10					8.15	7.20		24.84	2212
Contents as found ..	2.31	2.81	4.67	2.46	0.87	8.00	7.13	7.37	9.30	23.80	
Guaranteed contents	1.96	2.38					10.47	3.84		21.63	2213
Contents as found ..	2.03	2.47	4.45	4.78	2.12	11.35	9.23	3.65	4.90	21.38	
Guaranteed contents	3.21	3.90				24.40					2214
Contents as found ..	2.66	3.23		13.70	8.95	22.65	13.70		6.15	26.27	
Guaranteed contents	1.65—2.47	2 to 3	6—7	2—3	1—2	9—11	8—10	4—5		19.31	2215
Contents as found ..	2.67	3.25	4.55	6.55	1.05	12.15	11.10	8.14	2.80	30.20	



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DESCRIPTION OF STANDARD SAMPLES OF

Date when Advised.	Designation.	No. of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
Mar. 14	Bilston Basic Slag ..	2216	Alfred Hickman Co'y., Bilston, England.	E. E. McNutt, Truro, N. S.	
" 19	Sulphate of Ammonia	2217		Mathias O. Ferland, Berthierville, Que.	
" 19	Celery, Onion and Truck Fertilizer.	2218		" "	
" 19	Croker's H.G Special Fertilizer.	2219		" "	
" 19	Muriate of Potash...	2220		" "	
" 19	Sulphate of Potash..	2221		" "	
" 19	Eureka Special To- bacco.	2222		" "	
" 20	No. 1 Superphos- phate.	2223	Capelton Chemical Ferti- lizer Co., Buckingham, Que.	Capelton Chemical Ferti- lizer Co., Buckingham, Que.	
" 20	Royal Canadian....	2224	" "	" "	
" 20	Reliance.....	2225	" "	" "	
" 20	Victor.....	2226	" "	" "	
" 20	Leeds Thomas Phos- phate Flour.	2227		Davison Hill, Onslow Station, N. S.....	
" 25	Ground Bone .....	2228		Brackman & Ker Milling Co., Vancouver.	
April 6	Bone Meal.....	2229			
" 7	Dried Tankage. ....	2230	Canadian Packing Co., London, Ont.	Themselves...	Waste general of packing house.
" 9	Fertilizer... ..	2231	Joseph O'Mara, Palmer- ston, Ont.	Himself...	Blood, offal and tankage of hogs.
" 18	Fertilizer 'A'.. ..	2232	Victoria Chemical Co., Ltd., Victoria, B.C.	Themselves. ....	Nitrate of soda, muriate of pot- ash and super- phosphate of lime.
" 18	Fertilizer 'B'.. ..	2233	" "	" .....	" ..
" 18	Fertilizer 'C'.....	2234	" "	" .....	Muriate of potash and superphos- phate of lime.
" 18	Fertilizer 'D'....	2235	" "	" .....	Nitrate of soda, muriate of potash and superphos- phate of lime.
" 18	Superphosphate of Lime.	2236	" "	" .....	Spent bone, char- bone and sulphu- ric acid.
" 18	Nitrate of soda.....	2237	" "	" .....	
" 18	Sulphate of potash..	2238	" "	Imported from Chili....	
" 18	Muriate of potash...	2239	" "	Imported " .....	
				Imported from Germany ..	
				Imported " .....	
				Imported from Germany ..	



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## FERTILIZERS REGISTERED FOR THE YEAR 1908.

RESULTS OF ANALYSIS.											
		Nitrogen.		Phosphoric Acid.							No. of Sample.
	Total includ- ing that of nitric acid or ammonia if present.	Total calculat- ed as am- monia.	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available.	Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.	
Guaranteed contents			—	14.25	6.10	20.35	14.25			17.51	2216
Contents as found..										81.60	2217
Guaranteed contents	21.25									69.36	
Contents as found..	20.40	24.78									2218
Guaranteed contents	4.11	5				4		12			
Contents as found..	4.07	4.95	3.67	1.83	1.00	6.50	5.50	12.06	9.45	32.62	
Guaranteed contents	1.65	2				8		4			2219
Contents as found..	1.93	2.35	6.67	1.93	1.10	9.70	8.60	4.11	10.20	21.13	
Guaranteed contents								50.55		50.55	2220
Contents as found..								55.28	1.55	55.28	
Guaranteed contents								48.50		48.50	2221
Contents as found..								49.56	1.00	49.56	
Guaranteed contents											2222
Contents as found..	2.47	3				4		4			
Guaranteed contents	2.27	2.75	1.40	2.50	2.50	6.40	3.90	4.05	5.90	16.95	
Contents as found..						10.14					2223
Guaranteed contents			10.05	2.58	1.87	14.50	12.60			8.75, 15.46	
Contents as found..											
Guaranteed contents	3.29—4.11	4.5				9—11		5—6			2224
Contents as found..	4.12	5.00	9.65	0.17	1.30	11.12	9.82	6.27	10.15	32.44	
Guaranteed contents	1.65—2.47	2—3				6—7		2—3			2225
Contents as found..	2.77	3.66	5.00	3.45	1.17	9.62	8.40	2.89	5.40	22.45	
Guaranteed contents	1.65—2.47	2—3				7—9		3—4			2226
Contents as found..	2.69	3.26	6.65	1.12	1.35	9.12	7.77	3.70	6.20	22.46	
Guaranteed contents											2227
Contents as found..				13.35	7.00	20.35	13.35		0.55	16.79	
Guaranteed contents	4.65	5.65					11.17	0.5		27.21	2228
Contents as found..	4.72	5.73		14.00	8.00	22.00	14.00	0.67	6.15	33.57	
Guaranteed contents	4.21					19.66					2229
Contents as found..	3.21	3.89		16.50	9.75	26.25	16.50		1.10	31.35	
Guaranteed contents											2230
Contents as found..	5.45	6.61	0.12	9.13	2.00	11.25	9.25		8.22	28.23	
Guaranteed contents	7.28	8.84				10.04		0.35	6.75		2231
Contents as found..	7.03	8.53	0.12	7.93	1.95	10.00	8.05	0.59	7.35	32.54	
Guaranteed contents	4.0					10.0		7.0			2232
Contents as found..	3.12	3.79	9.25	0.62	None.	9.87	9.87	8.26	12.10	30.65	
Guaranteed contents	3.5					9.00		11.00			2233
Contents as found..	2.53	3.08	7.52	0.56	0.42	8.50	8.08	14.06	12.60	32.43	
Guaranteed contents						12.5		11.00			2234
Contents as found..			11.26	0.98	0.37	12.55	12.18	12.16		26.79	
Guaranteed contents	2.5					10.0		11.00			2235
Contents as found..	2.07	2.52	7.44	0.54	1.52	9.50	7.98	11.78	12.35	28.80	
Guaranteed contents						16.00					2236
Contents as found..			15.55	4.05	1.15	20.75	19.60			23.46	
Guaranteed contents	16.0									54.40	2237
Contents as found..	12.80	15.54							0.75	43.52	
Guaranteed contents								50.00		50.00	2238
Contents as found..								47.96		47.96	
Guaranteed contents								50.00		50.00	2239
Contents as found..								48.04		48.04	



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DESCRIPTION OF STANDARD SAMPLES OF

Date when advised.	Designation.	Number of Sample.	Manufacturer.	By whom Sent.	From what Materials Produced.
1907.					
April 18	Homestead, A Bone Black Fertilizer.	2240	Michigan Carbon Works, Detroit.	Themselves.....	Dissolved bone, black mineral phosphate, sulphate of ammonia, acidulated tankage, sulphate or muriate of potash
18	Homestead High G. Garden and Vegetable Fertilizer.	2241	" "	" ..	" ..
18	Homestead Sugar Beet Fertilizer.	2242	" "	" .....	" ..
18	A-1-Potash Fertilizer.	2243	" "	" .....	" ..
18	Desiccated Bone....	2244	" "	" .....	Animal bone.....
18	Universal Fertilizer.	2245	Ontario Seed Co., Waterloo, Ont.	Manufacturers.....	Sulphate of potash
18	Engrais Chimique...	2246	F. Canac Marquis, Quebec.	Dr. Fiset.....	Green bones and dead animals.
30	Bone Meal....	2247	Portland Seed Co., Portland, Oregon.	J. R. Rennie, Vancouver, B.C.	.....
30	Bone Meal....	2248	" "	M. J. Henry, Vancouver, B.C.	.....
May 5	General Blood, Bone and Potash Fertilizer.	2249	Michigan Carbon Works, Detroit.	Am. Amalgamated Chem. Co., Buffalo, N.Y.	Blood, bone and tankage, mineral phosphates and potash.
5	Best Potato and Garden Blood and Tankage Fertilizer	2250	" "	" "	" ..



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## FERTILIZERS REGISTERED FOR THE YEAR 1908.

	RESULTS OF ANALYSIS.							Potash.	Moisture.	Relative value per ton of 2,000 lbs.	Number of Sample.
	Nitrogen.		Phosphoric Acid.								
	Total included that of nitric acid or ammonia if present.	Total calculated as am- monia	Soluble in water.	Citric soluble.	Insoluble.	Total.	Total available				
	p. c.	p.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	8	8
Guaranteed contents		2.5					8.00	1.50		67.30	2240
Contents as found...	2.52	3.06	6.00	2.23	2.07	10.30	8.23	2.16	15.25	21.00	
Guaranteed contents		2.5					8.00	5.00		20.80	2241
Contents as found...	2.06	2.30	6.00	2.70	1.80	10.50	8.70	5.27	14.00	22.98	
Guaranteed contents		1					9.00	2.00		16.12	2242
Contents as found...	1.36	1.65	6.25	2.15	2.75	11.15	8.45	3.16	10.35	18.47	
Guaranteed contents		1.0					8.0	3.00		14.00	2243
Contents as found...	0.81	1.00	6.12	1.58	2.67	10.37	7.70	3.03	13.15	15.67	
Guaranteed contents		1.5					25.00			31.47	2244
Contents as found...	1.22	1.48		16.75	14.00	31.25	16.75		1.50	26.68	
Guaranteed contents	3.29	4.12	6.7	2.0	1.2	9.10	8.10	7.8		27.89	2245
Contents as found...	3.15	3.94	8.17	0.68	1.15	11.00	9.85	5.34	8.00	25.00	
Guaranteed contents											2246
Contents as found...	3.14	3.81		13.10	8.50	21.60	14.10		15.80	27.00	
Guaranteed contents	3.62					20.40					2247
Contents as found...	3.58	4.35	None.	17.00	5.00	22.00	17.00		6.25	11.00	
Guaranteed contents	3.62					20.40					2248
Contents as found...	2.96	3.59	None.	16.00	5.50	21.50	16.00		6.25	28.72	
Guaranteed contents	1.62	2.00	6.7	2.3	1.2	9.11	8.10	10.11		25.54	2249
Contents as found...	2.31	2.81	7.02	1.68	1.30	10.00	8.70	9.92	9.75	28.44	
Guaranteed contents	2.06	2.50	6.7	2.3	1.2	9.11	8.10	6.7		22.70	2250
Contents as found	2.13	2.58	5.87	3.12	2.01	11.00	8.99	7.30	7.00	25.62	



APPENDIX B.

BULLETIN No 152—TINCTURE OF IODINE.

OTTAWA, April 15, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I have the honour to report upon a collection of 75 samples of Tincture of Iodine, obtained throughout the Dominion in February last.

These have been examined in this Laboratory, with the following results :—

	Samples.
Genuine .....	60
Adulterated (containing no free Iodine)....	1
“ (containing methyl) alcohol .....	9
“ (containing methyl alcohol) and being too low in Iodine.....	5
Total .....	75

This is the first occasion upon which Tincture of Iodine has been made the subject of Departmental inspection, and the following explanatory remarks may be necessary.

The British Pharmacopœia prescribes the following formula (Edition 1898).

	Imperial.	Metric.
Iodine .....	$\frac{1}{2}$ ounce	25 grammes.
Potassium Iodide.....	$\frac{1}{2}$ “	25 “
Distilled water.....	$\frac{1}{2}$ fl. “	25 cubic centimetres.
Alcohol (90 per cent) a sufficient quantity.		

Place the Iodine and Potassium Iodide in a bottle with the distilled water ; when solution has been effected, add a sufficient quantity of the Alcohol to produce one pint (or one thousand cubic centimetres) of the Tincture.

The Tincture made from this formula contains free Iodine, 1 part in 40 parts, or 2·5 per cent.

Many foreign pharmacopœias prescribe a Tincture made without Potassium Iodide and with much larger amounts of free Iodine than the above. Thus, the French Codex prescribes 1 part in 12 parts (= 8·5 per cent) of Iodine ; the United States Pharmacopœia prescribes 1 part Iodine in 14·3 (= 7·0 p.c.)

Tinctures of Iodine are prone to decomposition, and this is particularly true of those made without Potassium Iodide. These last are unsuited for internal use, since their Iodine is precipitated more or less, on dilution with water.

While many pharmacopœias authorize a higher percentage of free Iodine than does the British Pharmacopœia, none prescribe a lower amount. I have considered it permissible to allow samples to pass as genuine, in which the free Iodine does not fall below 2 per cent.



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Five samples are found to contain less than 2 per cent of free Iodine; and it is noteworthy that all of these are made with Wood spirit (methyl alcohol) instead of Ethyl Alcohol, as prescribed by all the pharmacopœias. One sample (No. 26394) contains no free Iodine. Of course such a Tincture possesses none of the discutient properties of the pharmacopœal tincture. A decolorized tincture is described, unofficially, in the British Pharmacopœia, and in the United States (National) Dispensary, 1896; but should not be confounded with Tincture of Iodine.

Fourteen samples are found to contain methyl alcohol, in place of ethyl alcohol, as prescribed by all pharmacopœias.

The following is quoted from the 5th Edition of the National Dispensary (U.S.A.) p. 157: "The vapours of methyl alcohol, diffused in the air, give rise to headache, dizziness, nausea and loss of appetite. It was at one time employed as a stimulant in pulmonary consumption, chronic catarrh, dyspepsia, and verminous affections, but is now entirely disused."

There can be no doubt that the substitution of Wood Spirit (methyl alcohol) for Ethyl alcohol, constitutes an adulteration under the Act

I beg to recommend the publication of this report as Bulletin No. 152.

I have the honour to be, Sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



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EXAMINATION OF TINCTURE OF IODINE AT THE INLAND

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
1908.						
DISTRICT OF NOVA SCOTIA—						
Feb. 13	Tincture of Iodine ..	33607	National Drug Co., Halifax, N.S.	6 oz....	50	Vendors .....
" 18	" ..	33608	Jas. Walsh, Halifax, N.S.	6 " ....	60	Vendor .....
" 18	" ..	33609	A. A. Thompson, Halifax, N.S.	6 " ....	60	" ..
" 21	" ..	33610	R. M. Jackson, New Glasgow, N.S.	6 " ....	50	" ..
" 22	" ..	33611	R. J. McKenzie, Pictou, N.S.	6 " ....	60	" ..
DISTRICT OF PRINCE EDWARD ISLAND—						
Feb. 17	Tincture of Iodine ..	31225	G. E. Hughes, Charlottetown.	6 oz....	90	G. E. Hughes, Charlottetown.
" 18	" ..	31226	P. N. Enman, Summerside	6 " ....	75	P. N. Enman, Summerside
" 18	" ..	31227	Wm. Kennedy, Summerside	6 " ....	60	Can. Drug Co., St. John, N.B.
" 19	" ..	31228	Jardine & Bernard, Kensington.	6 " ....	60	Nat. Drug Co., Halifax...
" 20	" ..	31229	Reddin Bros., Charlottetown.	6 " ....	60	Reddin Bros., Charlottetown.
DISTRICT OF NEW BRUNSWICK—						
Feb. 12	Tincture of Iodine ..	29644	Nat. Drug & Chem. Co., Ltd., Mill St., St. John, N.B.	6 oz....	60	Nat. Drug & Chem. Co., Ltd., St. John, N.B.
" 20	" ..	29645	Sussex Mercantile Co., Ltd., Main St., Sussex, N. B.	6 " ....	90	Sussex Mercantile Co., Ltd., Sussex, Kings Co., N.B.
Mar. 9	" ..	29646	D. W. C. Stevens, Main St., Woodstock, N.B.	6 " ....	60	D. W. Stevens, Vendor...
" 10	" ..	29647	C. A. McKeen, Woodstock, N.B.	6 " ....	75	C. A. McKeen, Vendor...
" 10	" ..	29648	Garden Bros., Woodstock..	6 " ....	60	Garden Bros., Vendors ...
DISTRICT OF QUEBEC—						
Feb. 10	Tincture of Iodine ..	26378	A. E. Michon, Montmagny	6 oz....	60	W. Brunet & Cie, Quebec.
" 12	" ..	26390	E. O. Cloutier, Rivière du Loup en Bas.	6 " ....	60	Lyman & Son Co..... :
" 12	" ..	26393	Dr. F. E. Gilbert, Fraserville.	6 " ....	60	" ..
" 12	" ..	26394	Dr. T. Kane, Rivière du Loup Station.	6 " ....	60	" ..
" 12	" ..	26395	" " ..	6 " ....	60	" ..



SESSIONAL PAPER No. 14

REVENUE LABORATORY, 317 QUEEN ST., OTTAWA, ONT.

Inspector's Report.	RESULTS OF ANALYSIS.							Remarks and Opinion of the Chief Analyst.
	Iodine per 100 CC.	Alcohol per 100 CC.	Distillate to 5 Volumes.					
			Density.	Alcohol (weight.)	Refracto- meter 20 C.	Equivi- alent Ethyl Alcohol.	Methyl Alcohol.	
			p. c.	p. c.		p. c.	p. c.	
R. J. WAUGH, INSPECTOR.								
.....	2.46	83.05	0.9796	13.46	37.7	13.48	None	Genuine.
.....	5.02	85.40	0.9886	6.86	25.5°	6.77	"	Genuine. This Distillate was made to 10 volumes.
.....	2.41	85.40	0.9791	13.85	38.6	13.97	"	Genuine.
.....	2.69	81.20	0.9800	13.15	37.2	13.22	"	"
.....	2.36	84.45	0.9793	13.69	38.6	13.97	"	"
THEO. MOORE, INSPECTOR.								
.....	2.41	95.90	0.9771	15.58	24.0		*16.21	Adulterated with wood alcohol.
.....	2.22	81.20	0.9799	13.23	38.6	13.97	None	Genuine.
.....	2.01	85.85	0.9790	13.92	39.0°	14.19	"	"
.....	5.52	89.60	0.9879	7.33	26.3	7.22	"	" Distillate made to 10 volumes.
.....	3.57	85.85	0.9790	13.92	38.3	13.79	"	Genuine.
J. C. FERGUSON, INSPECTOR.								
.....	6.60	89.60	0.9784	14.45	40.5°	14.48	"	Genuine.
.....	2.92	84.45	0.9792	13.77	38.5	13.96	"	"
Mfg. by Vendors, per B. P. Formula.	2.80	93.15	0.9777	15.12	23.6		*15.87	Adulterated with wood spirit.
"This sample may be a little stronger than B. Formula."	2.66	87.95	0.9786	14.27	39.0°	14.19	None	Genuine.
Mfg. by Vendors, per B. P. Formula.	3.83	79.30	0.9803	12.92	37.2	13.22	"	"
E. BELAND, INSPECTOR.								
.....	6.07	85.88	0.9790	13.92	39.0	14.19	"	Genuine.
.....	2.46	84.00	0.9794	13.62	38.0	13.64	"	"
.....	2.66	82.60	0.9797	13.38	37.3	13.28	"	"
.....	None	53.85	0.9860	8.68	29.0	8.64	"	No free iodine. Adulterated as containing no free iodine.
.....	2.63	83.50	0.9795	13.54	38.3	13.79	"	Genuine.



9-10 EDWARD VII., A. 1910

EXAMINATIONS OF TINCTURE OF IODINE AT THE INLAND

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
1908.						

DISTRICT OF ST. HYACINTHE—

Feb.	13	Tincture of Iodine.	27951 Dr. Daignault, Acton Vale	6 oz....	90	Lyman Sons & Co., Montreal.
"	18	"	27952 Frazers Drug Store, Sherbrooke.	6 " ....	50	Vendor.....
"	19	"	27953 A. E. Baldwin, Coaticook.	6 " ....	50	A. W. Sanborn, New York
"	21	"	27954 Dr. A. G. H. Beique, Magog	6 " ....	50	Vendor.....
"	24	"	27955 Gast. St. Jacques & Cie, St. Hyacinthe.	6 " ....	50	" .....

DISTRICT OF MONTREAL—

Feb.	14	Tincture of Iodine..	32569 Leo. G. Ryan, 545 Notre Dame West, Montreal.	6 oz....	50	Vendor.....
"	14	"	32570 S. F. Emery, 607 Notre Dame West, Montreal.	6 " ....	50	Not known.....
"	18	"	32571 Mrs. St. Louis, Druggist, Valleyfield, P.Q.	6 " ...	60	Lyman Sons & Co., Montreal.
"	19	"	32572 S. Moisan, 661 St. Lawrence B., Montreal.	6 " ....	60	Not known.....
"	22	"	32573 Ranson Pharmacy Co., 407 St. Joseph St., Lachine, P.Q.	6 " ....	60	National Drug & Chem. Co.

DISTRICT OF OTTAWA—

Feb.	17	Tincture of Iodine..	34121 W. A. Cameron, Renfrew.	6 oz....	50	Vendor. ....
"	18	"	34122 M. Patterson, Almonte....	6 " ....	60	" .....
"	21	"	34123 G. F. Brethour, Ottawa....	6 " .....	75	" .....
"	21	"	34124 P. J. Nolan, Ottawa .....	6 " ...	75	" .....
"	21	"	34125 Allan & Cochrane, Bank St., Ottawa.	6 " ...	75	Vendors.....



SESSIONAL PAPER No. 14

REVENUE LABORATORY 317 QUEEN ST., OTTAWA, ONT.

Inspector's Report.	RESULTS OF ANALYSIS.						Remarks and Opinion of the Chief Analyst.
	Iodine per 100 C.C.	Alcohol per 100 C.C.	Distillate to 5 Volumes.				
			Density.	Alcohol (weight).	Water %	Equivalent Ethyl Alcohol.	
			p.c.	p.c.	p.c.	p.c.	

J. C. ROULEAU, INSPECTOR.

Labelled Tr. Iodine, Poison. Prepared according to British Pharmacopoeia by Lawson's & Co., Montreal.	2.32	82.15	0.9798	13.31	37.4 <sup>2</sup>	13.33	None.	Genuine.
From $\frac{1}{2}$ gal. bottle marked "Tr. Iodine."	2.41	86.85	0.9788	14.09	39.0 <sup>2</sup>	14.12	None.	Genuine.
Bottle labelled "Tr. Iodine."	2.52	87.40	0.9787	14.18	39.2 <sup>2</sup>	14.30	None.	Genuine.
Bottled labelled Tr. Iodine. Made according to British Pharmacopoeia.	2.83	81.65	0.9799	13.23	37.3 <sup>2</sup>	13.28	None.	Genuine.
Bottled labelled Tr. Iodine made according to British Pharmacopoeia.	2.59	85.30	0.9786	14.27	39.1 <sup>2</sup>	14.30	None.	Genuine.

J. J. COSTIGAN, INSPECTOR.

..	2.59	86.30	0.978	14.00	39.0 <sup>2</sup>	14.12	None.	Genuine.
..	1.94	95.48	0.9770	15.63	24.0 <sup>2</sup>	16.17	*Adulterated,	containing wood spirit and too low iodine.
..	2.51	81.20	0.9804	12.85	37.2 <sup>2</sup>	13.22	None.	Genuine.
..	2.60	94.90	0.9773	15.4 <sup>2</sup>	23.5 <sup>2</sup>	15.42	*Adulterated,	as containing wood spirit.
..	4.87	97.85	0.9766	15.95	24.5 <sup>2</sup>	16.33	*Adulterated,	as containing wood spirit.

J. A. RICKEY, INSPECTOR.

Taken from stock bottle on shelf.	2.84	95.4	0.9772	15.10	24.0 <sup>2</sup>	16.17	*Adulterated,	as containing wood spirit.
"	1.08	97.45	0.9768	15.83	24.5 <sup>2</sup>	16.94	*Adulterated,	as containing wood spirit and too low in iodine.
Vendor said sample was the ordinary B.P. Tincture of Iodine.	2.16	80.67	0.9784	14.45	39.2 <sup>2</sup>	14.31	None.	Genuine.
Taken from stock bottle on shelf labelled Tr. Iodine.	2.47	85.40	0.9794	13.62	38.1 <sup>2</sup>	13.69	None.	Genuine.
Bottles labelled Tr. Iodine, Poison. Allen & Cochrane, 3 stores, Red Cross Druggists, Ottawa, Ont.	2.55	84.00	0.9788	14.09	38.8 <sup>2</sup>	14.08	None.	Genuine.



9-10 EDWARD VII., A. 1910

EXAMINATIONS OF TINCTURE OF IODINE AT THE INLAND

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
1908.						

DISTRICT OF KINGSTON—

Feb. 10	Tincture of Iodine..	33067	W. W. Gibson, King St., 6 oz... Kingston.	40	W. W. Gibson, Kingston.
" 10	" ..	33068	H. Wade, King St., King- 6 " .... ston.	90	H. Wade, Kingston .....
" 10	" ..	33069	H. Skinner, Princess St., 6 " .... Kingston.	60	Nat. Drug Co., Montreal..
" 10	" ..	33070	A. P. Chown, Princess St., 6 " .... Kingston.	75	A. P. Chown, Kingston...
" 10	" ..	33071	L. T. Best, Princess St., 6 " ... Kingston.	60	L. T. Best, Kingston. ....

DISTRICT OF TORONTO—

Feb. 24	Tincture of Iodine...	35033	J. A. Zimmerman, corner 6 oz... Bartan & Wentworth, Hamilton.	50	Vendor.....
" 24	" ..	35034	A. C. Drewery, 108 James 6 " ... St., south, Hamilton.	75	" .....
" 27	" ..	35035	P. M. Dwyer, 53 St. Paul 6 " .... St., St. Catharines.	50	" .....
" 28	" ..	35036	A. Land, Main St., Niagara 6 " .... Falls, south.	50	" .....
Mar. 3	" ..	35037	The Albert Thompson Co., 6 " .... Ltd., Toronto.	45	Vendors.....

DISTRICT OF LONDON—

Feb. 11	Tincture of Iodine...	30464	Alfred Dunlop, Druggist, 6 oz ... Goderich.	60	Alfred Dunlop, Druggist, Goderich.
" 14	" ..	30474	Charles Abrahart, Druggist, 3 " ... Seaforth.	45	Charles Abrahart, Drug gist, Seaforth.
" 25	" ..	30480	W. A. McIntire, Druggist, 6 " ... St. Mary's.	60	Vendor.....
" 29	" ..	30490	R. A. Hunter, Druggist, 6 " .... Listowell.	60	" .....
" 28	" ..	30486	W. B. Barley, Druggist, 6 " .... Mitchell.	75	" .....

DISTRICT OF WINDSOR—

Feb. 18	Tincture of Iodine...	34501	H. O. Fleming.....	6 oz....	60 H. O. Fleming, Windsor..
" 19	" ..	34512	G. H. Gunn & Co., Chat- 6 " .... ham.	35	G. H. Gunn & Co., Chat ham.
" 19	" ..	34513	I. L. Davis, Chatham.....	6 " ....	60 I. L. Davis, Chatham.....
" 20	" ..	34519	Meek & Vening, London..	6 " ....	60 Meek & Vening, London..
April 10	" ..	34529	E. W. Boyle, London, 6 " .... east	60	Vendor .....



SESSIONAL PAPER No. 14

REVENUE LABORATORY, 317 QUEEN ST., OTTAWA, ONT.

Inspector's Report.	RESULTS OF ANALYSIS.						Remarks and Opinion of the Chief Analyst.	
	Iodine per 100 (°C.).	Alcohol per 100 (°C.).	Distillate to 5 Volumes.					
			Density.	Alcohol (weight.)	Refractometer 20 (°C.).	Equivalent Ethyl Alcohol.		Methyl. Alcohol.
			p. c.	p. c.		p. c.	p. c.	

J. HOGAN, INSPECTOR.

.....	2.59	81.20	0.9801	13.08	38.6	13.97	None.	Genuine.
.....	2.92	85.85	0.9793	13.69	38.5°	13.92		
.....	2.74	76.98	0.9809	11.97	22.2		13.41	* Adulterated, containing wood spirit.
.....	2.51	54.55	0.9858	8.79	22.2		13.41	*
.....	1.40	86.55	0.9788	14.09	23.1°		14.80	* " " and too low in iodine.

H. J. DAGER, INSPECTOR.

Sample taken from stock bottle on shelf.	2.89	86.85	0.9788	14.09	39.0	14.19	None.	Genuine.
Sample taken from dispensing room.	2.57	90.85	0.9764	16.15	24.2		16.48	* Adulterated, containing wood spirit.
Sample taken from stock bottle on shelf.	2.44	94.90	0.9873	7.73	27.4	7.78	None.	Genuine. Distillate was made to 10 volumes.
" "	5.59	88.80	0.9882	7.13	25.8	6.94		Genuine. Distillate was made to 10 volumes.
Sample taken from bottle on shelf of shop.	0.50	82.35	0.9797	13.25	25.9		19.34	* Adulterated, containing wood spirit, and being too low in iodine.

T. KIDD, INSPECTOR.

Made by vendor in his shop.	2.93	86.30	0.9790	13.92	38.3	13.80	None.	Genuine.
" " "	4.52	88.00	0.9883	7.07	25.5	6.78		" Distillate made to 10 volumes.
.....	1.86	89.62	0.9783	14.54	24.1		16.26	* Adulterated with wood spirit, and too low in iodine.
.....	2.45	84.00	0.9794	13.62	38.3	13.80	None.	Genuine.
.....	6.35	88.80	0.9882	7.13	26.0	7.06	"	" Distillate made to 10 volumes.

J. TALBOT, INSPECTOR.

.....	2.80	85.40	0.9790	13.92	38.6	13.97	None.	Genuine.
.....	2.30	84.90	0.9788	14.09	39.0	14.19	"	"
.....	2.21	84.90	0.9792	13.77	38.2	13.74	"	"
.....	2.03	81.20	0.9800	13.15	37.0	13.10	"	"
.....	2.46	75.60	0.9812	12.23	35.7°	12.30	"	"



9-10 EDWARD VII., A. 1910

EXAMINATION OF TINCTURE OF IODINE AT THE INLAND

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
1908.						
DISTRICT OF MANITOBA—						
Feb. 19	Tincture of Iodine...	25877	Elmwood Drug Store, Elmwood P.O., Winnipeg.	6 oz ...	60	Martin, Bole, Wynne Co., Winnipeg, Man.
" 19	"	25878	J. H. Leo, Elmwood, Winnipeg.	6 " ....	75	" " "
" 20	"	25879	W. J. Carson, Killarney, Man.	6 " ...	75	Vendor .....
" 24	"	25880	Glenboro Drug Store, Glenboro, Man.	6 " ....	60	" .....
" 28	"	25881	The Pulford Leonard Drug Co., Carman, Man.	6 " ....	60	Vendors. ....
DISTRICT OF CALGARY—						
Feb. 21	Tincture of Iodine ..	28892	O. H. Bott, Calgary.....	6 oz ...	1 20	Vendor .....
" 21	"	28893	Jas. Findlay & Co., Ltd., Calgary.	6 " ....	1 20	Lyman Sons & Co., Montreal.
" 22	"	28894	Curry & Cope, Calgary....	6 " ...	1 20	Vendors .....
" 22	"	28895	W. Maclean, Calgary.....	6 " ....	1 20	Vendor .....
" 21	"	28896	Oliver Brothers, Calgary .	6 " ....	1 20	Vendors. ....
DISTRICT OF VANCOUVER—						
Feb. 17	Tincture of Iodine .	34227	John Reid, Granville St. Vancouver, B.C.	6 oz... ..	1 50	Vendor .....
" 17	"	34228	Terry & Maret, Hastings St., Vancouver, B.C.	6 " ....	75	Vendors. ....
" 17	"	34229	E. S. Knowlton, Cor. Hastings & Carrall Sts., Vancouver, B.C.	6 " ....	1 50	Vendor. ....
" 18	"	34230	Woodward Departemental Stores, Cor. Abbot and Hastings Sts., Vancouver B.C.	6 " ...	50	Vendors .....
" 18	"	34231	Brown & Beaton, Westminster Ave., Vancouver B.C.	6 " ....	1 00	" .....
DISTRICT OF VICTORIA—						
Feb. 28	Tincture of Iodine ..	34865	D. E. Campbell, Victoria, B.C.	6 oz....	60	Vendor .....
" 28	"	34867	Wm. Jackson & Co., Victoria, B.C.	6 " ....	1 00	Vendors. ....
" 28	"	34870	Geo. A. Fraser, Victoria, B.C.	6 " ...	75	Vendor .....
" 28	"	34872	Dean & Hissocks, Victoria, B.C.	6 " ....	75	Vendors. ....
" 29	"	34873	G. Morison & Co., Victoria, B.C.	6 " ....	75	" .....



SESSIONAL PAPER No. 14

REVENUE LABORATORY, 317 QUEEN ST., OTTAWA, ONT.

Inspector's Report.	RESULTS OF ANALYSIS.							Remarks and Opinion of the Chief Analyst.
	Volume per 100 C.C.	Alcohol per 100 C.C.	Distillate to 5 Volumes.					
			Density	Alcohol (weight.)	Refract- ometer '90 C.	Equivalent Ethyl Alcohol.	Methyl Alcohol.	
			p.c.	p.c.		p.c.	p.c.	
A. C. LARIVIERE, INSPECTOR.								
.....	2.85	81.20	0.9800	13.15	37.4°	13.33	None	Genuine.
.....	2.67	80.70	0.9801	13.08	37.2°	13.22		
.....	2.63	81.65	0.9799	13.23	37.3°	13.29		
.....	3.13	83.50	0.9795	13.54	38.1°	13.38		
.....	2.67	80.30	0.9789	14.00	39.0°	14.19		
R. W. FLETCHER, INSPECTOR.								
.....	2.48	87.40	0.9787	14.18	38.3°	14.35	None	Genuine.
.....	2.72	80.25	0.9802	13.00	36.2°	12.64		
.....	2.84	83.50	0.9795	13.54	37.4°	13.33		
.....	2.72	84.00	0.9794	13.62	38.2°	13.74	"	
This sample is over stan- dard.	3.59	84.00	0.9794	13.62	38.0°	13.64	"	
J. F. POWER, INSPECTOR.								
.....	2.38	84.45	0.9791	13.85	39.2°	14.31	None	Genuine.
.....	2.25	81.80	0.9799	13.00	37.2°	13.22		
.....	3.16	85.80	0.9781	14.73	39.5°	14.46	"	
.....	2.32	93.15	0.9777	17.11	34.0°		16.25	*Adulterated. Containing wood spirit.
.....	2.48	80.25	0.9802	13.00	36.2°	12.64	None	Genuine.
D. O. SULLIVAN, INSPECTOR.								
Manufactured on prem- ises of Vendor.	2.39	84.00	0.9794	13.62	38.0°	13.64	None	Genuine.
"	2.84	77.45	0.9808	12.54	35.0°	12.49	"	"
"	2.65	77.45	0.9808	12.54	35.4°	12.19	"	"
"	2.16	84.45	0.9793	13.69	38.5°	13.92		
"	2.71	83.65	0.9796	13.46	37.5°	13.37		

\* The alcohol is determined by use of Wehner's tables, as authorized for the Inland Revenue. These are constructed for Ethyl alcohol, taken as having a density of 0.7938 at 15.5° C. and lead to slight errors in cases where methyl alcohol is present.







SESSIONAL PAPER No. 14

## APPENDIX C.

## BULLETIN No. 153—GLACIAL ACETIC ACID.

OTTAWA, April 28, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 45 samples of Glacial Acetic Acid, purchased in retail drug shops, throughout the Dominion, in February of this year.

Of this number, 34 samples contain 95 per cent or more by weight, of real acetic acid, and these I have adjudged as genuine. The British Pharmacopœia, as well as that of the United States, requires Glacial Acetic Acid to contain 99 per cent of true acid. Exposure to moist air, from the frequent unstoppering of bottles, in the ordinary business of dispensing, may account for a dilution of a few units per cent, and I have considered it reasonable to regard as genuine all samples reaching 95 per cent strength.

Eleven (11) samples are decidedly below the standard strength, two samples falling to about 50 per cent.

It is to be remarked that the British Pharmacopœia, in addition to Glacial Acetic Acid, describes an Acetic Acid of 33 per cent strength, and a diluted Acetic Acid of 4·27 per cent.

I would respectfully recommend the publication of this report as Bulletin No. 153.

I have the honour to be, Sir,  
Your most obedient servant,

A. MCGILL,  
*Chief Analyst.*



INSPECTION OF GLACIAL ACETIC ACID—BULLETIN 153.

Date of Receipt	Nature of Sample	No. of Sample	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
								Percent-acetic acid.	Specific gravity of Sample.	
DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.										
Feb. 15	Glacial acetic acid.	33301	National Drug Co., Halifax, N.S.	8 oz.	30	Unknown.	Said to be manufactured in England.	96.12	1.058	Genuine.
" 18	" "	33302	Brown Bros. & Co., Halifax, N.S.	8 "	40	National Drug Co., Halifax, N.S.		97.64	1.060	"
" 21	" "	33303	A. C. Bell, New Glasgow, N.S.	8 "	25	" "		97.07	1.057	"
DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.										
Feb. 15	Glacial acetic acid.	31219	A. W. Reddin, Charlottetown	8 oz.	30	National Drug Co., Halifax.		96.00	1.070	Genuine.
" 18	" "	31220	McDonald & McKinnon, Charlottetown.	8 "	35	Lyman Sons & Co., Montreal.		96.51	1.060	"
" 18	" "	31221	A. W. P. Gourlie, Summerside.	8 "	30	Lyman, Knox & Co., Montreal.		73.03	1.068	Below B. P. strength.
DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.										
Feb. 21	Glacial acetic acid.	29638	Nat. Drug & Chem. Co., Ltd., Mill St., St. John, N.B.	8 oz.	72	Not known.	Imported from Germany.	98.29	1.056	Genuine.
" 21	" "	29639	Fairweather Brothers, Main St., Moncton, N.B.	8 oz.	30	Nat. Drug & Chem. Co., Ltd., St. John, N.B.		98.29	1.053	"
Mar. 7	" "	29640	Hunt & McDonald, Fredericton, N.B.	8 "	30	Lyman Sons & Co., Montreal.		93.96	1.060	"







INSPECTION OF GLACIAL ACETIC ACID—BULLETIN 153.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.		Cost.	Name and Address of Manufacturer or Furnisher as given by Vendor.		RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
								Percent. acetic acid.	Specific gravity of Sample.	
					(Quantity.)					

DISTRICT OF KINGSTON J. HOGAN, INSPECTOR.

1908.

Feb.	10	Glacial Acetic Acid	33061	W. W. Gibson, King St., 8 oz., Kingston.	40	H. Skinner & Co., Kingston	96.98	1.061	Genuine.	
"	10	"	33062	H. Wade, King St., Kingston	8 " "	40 Not known.	98.20	1.054	"	
"	10	"	33063	H. Skinner, Princess St., 8 " " Kingston.	40	Nat. Drug Co., Montreal.	97.08	1.063	"	

DISTRICT OF TORONTO H. J. DAGER, INSPECTOR.

Feb.	27	Glacial Acetic Acid	35027	Walker & Abbs, 295 St. Paul St., 8 oz., St. Catharines.	25	Don. Drug Co., Hamilton.	95.39	1.063	Genuine.	
"	29	"	35028	H. W. Pew, 60 Erie Ave., Niagara Falls.	40	" " "	97.08	1.060	"	
Mar	3	"	35029	Chas. Wilson, 339 Bathurst St., Toronto.	8 " "	40 Lyman Knox & Clarkson, To stock bottle on shelf.	97.25	1.055	"	

DISTRICT OF LONDON—T. KIDD, INSPECTOR.

Feb.	13	Glacial Acetic Acid	30470	E. J. Nasmith, Druggist, 8 oz., Stratford.	70	J. Winer, Hamilton	96.58	1.053	Genuine.	
"	25	"	30482	Frank H. Smith & Co., Drug- gist, St. Marys.	8 " "	80 London Drug Co., London, Ont.	51.25	1.036	Below B. P. strength.	
"	11	"	30488	Walter McKibbin, Wingham	8 " "	80 Lyman Bros. & Co., Toronto.	73.11	1.071	"	



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## DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR.

Feb. 18	Acetic Acid.	34503	H. O. Fleming	8 oz	40	London Drug Co.	98 30	1 058	Genuine.
" 19	"	34511	G. H. Gunn & Co., Charlton	8 "	30	Wheeler & Co., Hamilton	98 29	1 056	"
" 20	"	34517	Anderson & Nelles, London	8 "	25	National Drug Co.	50 14	1 065	Below B. P. strength. May have been sold as Acetic Acid, not as Glacial Acetic Acid.

## DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

Feb. 20	Glacial Acetic Acid	25871	W. J. Carson, Killarney, Man.	8 oz	40	Not given	67 71	1 081	Below B. P. strength.
" 24	"	25872	Glenboro Drug Store, Glenboro, Man.	8 "	35	The Bab Drug Co., Winnipeg, Man.	79 13	1 076	"
" 28	"	25873	The Polford Leonard Drug Co., Carleton Place, Man.	8 "	30	The Polford Leonard Drug Co., Winnipeg, Man.	80 02	1 076	"

## DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

Feb. 21	Glacial Acetic Acid	28886	O. H. Batt, Calgary	8 oz	80	Martin, Bob White, Winnipeg, Man.	95 93	1 057	Genuine.
" 21	"	28887	Jas. Findlay & Co., Calgary	8 "	80	Unknown	95 30	1 064	"
" 21	"	28888	W. Maclean, Calgary	8 "	80	Dunn Drug Co., Hamilton	97 38	1 053	"

## DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

Feb. 17	Glacial Acetic Acid	34221	J. W. Morrow, Col. Hastings and Seymour Sts., Vancouver, B.C.	9 oz	35	Henderson Bros., Ltd., Vancouver, B.C.	99 01	1 050	Genuine.
" 17	"	34222	Woods Pharmacy, Cor. Hastings and Seymour Sts., Vancouver, B.C.	9 "	45	"	98 58	1 050	"
" 17	"	34223	Win. Harrison Co., Ltd., Cor. Granville and Pender Sts., Vancouver, B.C.	9 "	50	"	81 79	1 077	Below B. P. strength.



INSPECTION OF GLACIAL ACETIC ACID—BULLETIN 153.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Percent-acetic acid.	Specific gravity of Sample.	
DISTRICT OF VICTORIA D. O. SULLIVAN, INSPECTOR.										
1908.										
Feb. 28	Glacial Acetic Acid	34863	D. E. Campbell, Victoria, B.C.	8 oz.	30	Lyman & Son, Montreal, Que.	.....	97.08	1.060	Genuine.
" 28	"	34866	W. Jackson & Co., Victoria, B.C.	8 "	50	Henderson Bros., Victoria, B.C.	.....	96.59	1.056	"
" 28	"	34869	Geo. A. Fraser, Victoria, B.C.	8 "	30	" "	.....	96.09	1.049	"



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## APPENDIX D.

## BULLETIN No. 154—OIL OF LEMON.

OTTAWA, May 22, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR, —I beg to hand you a report upon 45 samples of Oil of Lemon, collected in February of this year, through the various inspectoral districts of the Dominion.

The results of analysis do not enable me to arrive at well-defined conclusion regarding these samples. The characteristics of Oil of Lemon are so vaguely described in the pharmacopœias, and its composition has been so imperfectly worked out, that there is much difficulty in interpreting the analytical numbers. The present report must be regarded as a contribution to the study of Oil of Lemon, rather than as an application of methods of detecting adulteration. Definite methods can only be arrived at by the study of data such as are now submitted.

I beg to recommend the publication of this report as Bulletin No. 154; and I may add that the work herein recorded has been performed by Mr. A. Lemoine.

I have the honour to be, Sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



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## MEMORANDUM.

Oil of lemon (*Oleum Limonis*) is thus defined by the British Pharmacopœia (Edition of 1898):—

*Characters and Tests.*—Pale yellow, with the fragrant odour of the lemon, and a warm bitterish aromatic taste. Specific gravity 0·857 to 0·860. It should rotate the plane of a ray of polarized light not less than  $59^{\circ}$  to the right in a tube 100 millimetres long; and if 100 volumes be fractionally distilled, the 10 volumes first collected should not produce a rotation differing by more than  $2^{\circ}$  from that produced by the original oil.

The Pharmacopœia of the United States (Seventh Decennial Revision, 1890) gives the following definition:—

A pale yellow, limpid liquid, having the fragrant odour of lemon, and an aromatic, somewhat bitterish taste.

Specific gravity: 0·857 to 0·860 at  $15^{\circ}$  C. ( $59^{\circ}$  F.). Its optical rotation should not be less than  $60^{\circ}$  to the right in a 100 Mm. tube, and at a temperature of about  $15^{\circ}$  to  $20^{\circ}$  C. ( $59^{\circ}$  to  $68^{\circ}$  F.).

Soluble in three times its volume of alcohol, the solution being neutral or slightly acid to litmus paper; also soluble, in all proportions, in absolute alcohol, carbon disulphide, or glacial acetic acid.

When kept for some time, the oil should not develop a terebinthinate odour or taste (absence of *oil of turpentine* or of *other oils consisting chiefly of pinene*).

The National Dispensatory (5th edition) defines the specific gravity as about 0·857 to 0·863 at  $15^{\circ}$  C., and fixes the initial boiling point at  $160^{\circ}$  C. Seven (7) volumes of alcohol is quoted as characteristic for complete solution.

Oil of lemon is largely (about 90 per cent) composed of terpenes, the chief of which is limonene ( $C_{10}H_{16}$ ). W. A. Tilden found 76 per cent of citrene (= d—limonene), boiling at  $176^{\circ}$  C.; 6 per cent of cymene (1:4, methylisopropyl benzene) boiling at  $175^{\circ}$  C., and other hydrocarbons.

The value of oil of lemon, for flavouring purposes, is chiefly due to the presence of citral, an aldehyde which constitutes from 4 to 8 per cent of the oil. (Squire's Companion, p. 398). Citral boils at  $224^{\circ}$  to  $228^{\circ}$  C., and is concentrated in the higher fractions when the oil is distilled.

It is because of the large proportion of terpenes in oil of lemon, that flavouring extracts must be made with strong alcohol. When too little alcohol is employed, the oil remains undissolved. It is claimed, however, that a large proportion of the citral, which is the chief flavouring component, is dissolved by a weakly alcoholic liquid, and in this way a so-called "terpeneless lemon extract" is prepared. Since the chief item of expense in lemon flavouring extract, is the alcohol, there is a temptation to manufacturers to employ so-called "terpeneless lemon oil." In Bulletin No. 89 are recorded 27 samples of extract of lemon, made with alcohol varying from 92·36 per cent to as low as 20·99 per cent strength. The oil of lemon found in solution varied from 15·5 per cent to a mere trace. In Bulletin 114, are recorded 110 samples of extract of



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lemon, of which only 13 samples were made with alcohol of above 80 per cent, while 38 samples contained less than 30 per cent of alcohol. The oil of lemon was above 5 per cent in only 5 samples, and below 1 per cent in 78 samples.

When oil of lemon is subjected to repeated washing with a dilute alcohol, the undissolved residue, as it becomes poorer in citral, loses its commercial value for flavouring purposes, becoming more and more nearly a mixture of terpenes only. It is much to be desired that a workable method of detecting washed or exhausted oil of lemon should be devised. Up to the present time it is necessary to rely upon odour and taste. The German Pharmacopœia gives the following method of procedure:—  
“One drop of the oil triturated with sugar and agitated with 500 grammes of water, should impart to the latter the pure odour of lemon.”

A. MCGILL.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
1908.						

DISTRICT OF NOVA SCOTIA—

Feb. 13	Oil of Lemon....	33604	National Drug Co., Halifax, N.S.	3 oz..	45	G. Ecora, Italy.....
" 14	" ...	33605	Buckley Bros., Halifax, N.S..	3 " ..	60	" ..
" 26	" ...	33606	W. H. Stevens, Dartmouth, N.S.	3 " ..	75	National Drug Co., Halifax, N.S.

DISTRICT OF PRINCE EDWARD ISLAND—

Feb. 17	Oil of Lemon....	31222	Johnson & Johnson, Charlotte town.	3 oz..	60	Not known.....
" 18	" ...	31223	A. W. P. Gourlie, Summerside	3 " ..	60	Giacomo Ecora, Messina, Italy.
" 19	" ...	31224	Edgar Kier, Kensington.....	3 " ..	45	W. G. Polson & Co., Kingston, Ont.

DISTRICT OF NEW BRUNSWICK—

Feb. 12	Oil of Lemon....	29641	National Drug & Chem. Co., Ltd., Mill St., St. John, N.B.	3 oz..	75	Vendors.....
" 18	" ...	29642	E. Clinton Brown, cor. Union and Waterloo Sts., St. John, N.B.	3 " ..	90	G. E. Peirce, Messina, Italy.
" 21	" ...	29643	G. O. Spencer, Main St., Moncton, N.B.	3 " ..	75	The Can. Drug Co., Ltd., St. John, N.B.

DISTRICT OF QUEBEC—

Feb. 12	Oil of Lemon...	26392	E. O. Cloutier, Rivière du Loup en bas.	6 oz..	1 50	Polson Co., Kingston.....
" 18	Superior " ...	26403	Jos. Masson, 808 St. Valier, Quebec.	6 " ..	1 50	Polson, Kingston... ..
" 18	" ...	26404	" " " " " " " "	6 " ..	90	" ..

DISTRICT OF St. HYACINTHE—

Feb. 18	Oil of Lemon....	27948	F. F. Ansell, Sherbrooke.....	2½ " .	65	Not known.....
" 21	" ...	27949	Dr. John West, Magog. ...	2½ " .	90	" ..
" 22	" ...	27950	Dr. J. B. Comeau, Farnham..	3 " .	75	Lyman, Sons & Co., Montreal



SESSIONAL PAPER No. 14  
OIL OF LEMON.

Inspector's Report.	RESULTS OF ANALYSIS.					Appearance.	Remarks and opinion of the Chief Analyst.
	Index of Refrac- tion.	Polariza- tion.	Specific gravity.	Solubility in 3 vols. Alcohol.	Distillat.		
	p. c.	p. c.	p. c.		p. c.		

R. J. WAUGH, INSPECTOR.

.....	57.9	+ 113	0.860	Soluble...	166 c	Light green. Limpid	
Sample taken from copper vessel, labelled Messina Oil.	60.3	+ 139	0.858	" ..	170.5 c	" "	
.....	59.5	+144.6	0.858	" ..	171 c	" "	

T. MOORE, INSPECTOR.

Could not remember from whom purchased ; had been in stock for a long time.	62.8	+ 70.2	0.888	Soluble...	163 c	Very light green. Limpid.	Specific gravity is high ; odour resembled turpentine.
.....	60.1	+ 64.2	0.860	Insoluble.	168.5 c	Yellow. Limpid.	
.....	62.2	+170.8	0.858	Soluble...	172.5 c	Light green.	

J. C. FERGUSON, INSPECTOR.

Imported in original 1 lb. coppers from Spain. Bottled by vendors.	57.9	+167.0	0.859	Soluble...	170 c	Yellowish green.	
From original copper package .....	60.2	+166.0	0.857	" ..	170 c	"	
.....	56.9	+ 80.0	0.860	" ..	167 c	Pale green. Limpid.	

E. BELAND, INSPECTOR.

.....	61.7	+158.8	0.864	Soluble...	172 c	Pale green. Limpid.	
.....	60.6	+ 170	0.856	" ..	170.5 c	" "	
.....	59.8	+ 65	0.863	Insoluble.	166 c	Yellow. Limpid.	

J. C. ROULEAU, INSPECTOR.

The balance in a 4 oz. bottle labelled "Ol. Limonis."	60.2	+132.4	0.859	Soluble...	166 c	Light green. Limpid	
"	58.6	+ 106	0.871	" ..	166 c	" "	
Bottle labelled "Ol. Limonis."	59.4	+ 160	0.862	" ..	164 c	Yellow. Limpid.	



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BULLETIN No. 154—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
1908.						
DISTRICT OF MONTREAL—						
Feb. 14	Oil of Lemon....	32574	E. F. Emery, 607 Notre Dame West, Montreal.	3 oz..	60	National Drug & Chem. Co., Montreal.
" 24	"	32575	Quenneville & Guerin, 700 St. Catherine St., Montreal.	3 " ..	75	Not known.....
" 24	"	32576	R. McNichol, 542 St. Catherine East, Montreal.	3 " ..	75	" .....
DISTRICT OF OTTAWA—						
Feb. 22	Oil of Lemon...	34118	National Drug & Chemical Co., Ottawa.	3 oz..	75	Not known.....
" 21	"	34119	The Ottawa Drug Co., Ottawa.	3 " ..	60	Giacomo Ecora & Co., Messina, Sicily.
" 17	"	34120	J. A. Plaunt, Renfrew.....	3 " ..	1 20	The Drug Trading Co., Toronto, Ont.
DISTRICT OF KINGSTON—						
Feb. 10	Oil of Lemon...	33064	W. W. Gibson, King street, Kingston.	3 oz..	30	H. Skinner & Co., Kingston.
" 10	"	33065	H. Wade, King st., Kingston.	3 " ..	60	N. C. Polson, Kingston. ....
" 10	"	33066	A. P. Chown, Princess street, Kingston.	3 " ..	60	Lyman & Son, Montreal ....
DISTRICT OF TORONTO—						
Feb. 24	Oil of Lemon...	35030	John Mack, 1 James st., North, Hamilton.	3 oz..	75	Hamilton Coffee & Spice Co., Hamilton.
" 27	"	35031	H. Southcott, 99 St. Paul st., St. Catharines.	3 " ..	75	Lyman Bros. Co., Limited, Toronto.
" 28	"	35032	W. W. Ker, Cor. Main and Ferry sts., Niagara Falls South.	3 " ..	75	Giovanni Pasquale, Messina, Sicily.
DISTRICT OF LONDON—						
Feb. 14	Oil of Lemon...	30473	John Roberts & Co., druggist, Seaforth.	3 oz..	60	London Drug Co., London, Ont.
" 21	"	30477	W. S. R. Holmes, druggist, Clinton.	3 " ..	60	Drug Trading Co., Toronto..
" 29	"	30489	John Livingston, druggist, Listowell.	3 " ..	60	Elliot & Co., Wholesale druggists, Toronto.



## SESSIONAL PAPER No. 14

## OIL OF LEMON.

Inspector's Report.	RESULTS OF ANALYSIS.					Appearance.	Remarks and opinion of the Chief Analyst.
	Index of Refrac- tion.	Polariza- tion.	Specific gravity.	Solubility in 3 vols. Alcohol.	Distillat.		
	p. c.	p. c.	p. c.		p. c.		

## J. J. COSTIGAN, INSPECTOR.

.....	61.7	+104.8	0.868	Insoluble.	167°c	Pale yellow. Limpid	
.....	58.3	+127.2	0.878	Soluble...	168.5°c		
.....	61.7	+ 84.0	0.872	..	165°c		

## J. A. RICKEY, INSPECTOR.

Taken from 1 lb. copper container labelled, Best quality Oil of Lemon, hand pressed, specially imported. Nat. Drug & Chem. Co., Ltd., Montreal.	59.1	+160.6	0.862	Soluble..	170.5°c.	Very light green. Limpid.	
Imported by Vendors...	61.4	+ 38.4	0.865	Insoluble.	164°c.	Yellow. Limpid ..	Polarization low.
Tin marked Oil of Lemon, super hand pressed, G. E. Peirce, Messina, Italy.	61.2	+150	0.867	Soluble.	168.5°c.	Colourless. Limpid.	

## J. HOGAN, INSPECTOR.

.....	61.4	+165	0.860	Soluble.	169°c.	Light green. Turbid.	
.....	58.9	+165.4	0.858	..	171°c.	Light green. Limpid.	
.....	60.5	+167.4	0.858		171°c.	Light green. Limpid.	

## H. J. DAGER, INSPECTOR.

Sample taken from behind dispensing counter.	57.4	+173.6	0.854	Soluble.	171°c.	Light green. Limpid.	
Sample taken from bottle in dispensing room.	59.1	+170.8	0.857	..	171°c.	Colourless. Limpid.	
Sample taken from original copper and labelled Strictly pure.	60.6	+169	0.857	..	171°c.	Yellow. Turbid ..	

## T. KIDD, INSPECTOR.

.....	60.9	+160.0	0.859	Soluble..	169°c.	Very light green. Limpid.	
.....	60.0	+165.0	0.858	..	170.5°c.	..	
.....	60.5	+162.0	0.860	..	171°c.	..	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
1908.						

DISTRICT OF WINDSOR—

Feb. 18	Oil of Lemon. . .	34502	H. O. Fleming. . . . .	3 oz..	75	National Drug Co. . . . .
" 20	" . . . .	34518	Anderson & Nelles, London..	3 " ..	60	Dodge & Olcott, New York..
Apl. 9	" . . . .	34527	T. H. Duncombe, St. Thomas.	3 " ..	30	Nat. Drug Co., London. . . .

DISTRICT OF MANITOBA—

Feb. 19	Oil of Lemon... .	25874	Elmwood Drug Store, Elmwood P.O., Winnipeg.	3 oz..	1 20	The Bole Drug Co., Winnipeg, Man.
" 24	" . . . .	25875	Barkers Drug Store, Glenboro, Man.	3 " ..	75	.....
" 28	" . . . .	25876	Sanders Drug Store, Carman, Man.	3 " ..	75	Martin Bole Wynne Co., Winnipeg, Man.

DISTRICT OF CALGARY—

Feb. 21	Oil of Lemon... .	28889	Bole Drug Co., Calgary. . . . .	3 oz..	60	Unknown . . . . .
" 22	" . . . .	28890	Oliver Bros., Calgary.....	3 " ..	60	Evans & Sons, Ltd., Montreal.
" 22	" . . . .	28891	W. Maclean, Calgary.....	3 " ..	60	Nat. Drug Co., Montreal....

DISTRICT OF VANCOUVER—

Feb. 17	Oil of Lemon... .	34224	H. McDowell & Co., Corner Granville and Hastings sts., Vancouver, B.C.	3 oz..	75	J. B. Horner, New York....
" 17	" . . . .	34225	Leslie Henderson, Cor. Granville and Georgia sts., Vancouver, B.C.	3 " ..	1 50	" " . . .
" 17	" . . . .	34226	Le Patoural & McRae, Granville st., Vancouver, B.C.	3 " ..	1 50	Lyman Sons & Co., Montreal

DISTRICT OF VICTORIA—

Feb. 28	Oil of Lemon . .	34864	D. E. Campbell, Victoria, B.C.	3 oz..	75	— Bush, London, Eng.....
" 28	" . . . .	34868	Wm. Jackson & Co., Victoria, B.C.	3 " ..	75	Burgoyne, Burbidges & Co., London, Eng.
" 28	" . . . .	34871	Geo. A. Fraser, Victoria, B.C.	3 " ..	75	" " . . . .



SESSIONAL PAPER No. 14

OIL OF LEMON.

Inspector's Report.	RESULTS OF ANALYSIS.					Appearance.	Remarks, and opinion of the Chief Analyst.
	Index of Refrac-tion.	Polariza-tion.	Specific gravity.	Solubility in 3 vols. Alcohol.	Distillat		
	p. c.	p. c.	p. c.				

J. TALBOT, INSPECTOR.

.....	58.0	+164.2	0.858	Soluble..	162°c.	Colourless. Limpid.	
.....	65.6	+154.2	0.878	" ..	172°c.	Very light green. Limpid.	
.....	61.2	+132.0	0.861	" ..	162°c.	Colourless. Limpid.	

A. C. LARIVIERE, INSPECTOR.

.....	61.4	+162.0	0.862	Soluble..	170°c.	Colourless. Limpid.	
Bottle labelled The Pul-ford Leonard Drug Co., Winnipeg. Would not testify for purity.	61.7	+160.0	0.865	Insoluble.	160°c.	Light green. Lim-pid.	
.....	59.5	+161.4	0.858	Soluble..	170.5°c.	" ..	

R. W. FLETCHER, INSPECTOR.

.....	59.8	+162.4	0.859	Soluble.	170.5°c.	Pale green. Turbid.	
.....	58.3	+160.4	0.858	" ..	171°c.	" Limpid.	
.....	60.5	+164.0	0.858	" ..	170.5°c.	" ..	

J. F. POWER, INSPECTOR.

Superior hand pressed; guaranteed.	61.5	+160.0	0.857	Soluble..	171.5°c.	Very light green. Limpid.	
.....	60.2	+168	0.857	" ..	171°c.	" ..	
.....	49.8	+150.4	0.858	" ..	115°c.	Yellowish green....	

D. O. SULLIVAN, INSPECTOR.

.....	65.1	+151.4	0.850	Soluble.	171°c.	Greenish. Limpid.	
.....	60.2	+160.0	0.858.	" ..	170.5°c.	" ..	
.....	61.2	+161.4	0.858	" ..	171.5°c.	" ..	







## APPENDIX E.

## BULLETIN No. 155—MAPLE SYRUP.

OTTAWA, May 29, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 84 samples of Maple Syrup, collected in February last, as indicated in the subjoined table.

Instructions were specially given to accept no samples offered as Compounds, Mixtures, or as Maple Flavoured products. In spite of this warning, 6 samples have to be classified as Mixtures, viz.:—two purchased in Toronto district, two in London district, one in Quebec district, and one in Vancouver district. It is, however, to be remarked that the two samples obtained in Toronto were only acknowledged as mixture after the purchase was completed, and after our inspector had explained that they were purchased for analysis. Also that the sample bought in Vancouver district was sold as Maple Syrup, although the word "Flavour" was pencilled on the label; the same is true of the sample taken in Quebec.

The two samples purchased in London were plainly labelled "Maple Flavour" and should not have been accepted by Mr. Inspector Kidd.

## MAPLE SYRUP.

District.	Genuine.	Doubtful.	Adulterated.	Mixture.	Total.
Nova Scotia.....	6	0	0	0	6
P. E. Island. ....	0	0	0	0	0
New Brunswick. ....	6	0	0	0	6
Quebec. ....	1	0	1	1	6
St. Hyacinthe. ....	5	1	0	0	6
Montreal. ....	3	1	2	0	6
Ottawa. ....	4	0	2	0	6
Kingston. ....	4	1	1	0	6
Toronto.....	2	0	2	* 2	6
London. ....	2	0	2	2	6
Windsor. ....	6	0	0	0	6
Manitoba. ....	6	0	0	0	6
Calgary. ....	6	0	0	0	6
Vancouver. ....	5	0	0	1	6
Victoria.....	5	1	0	0	6
	61	4	13	6	84

\* Toronto. Mixture not declared until purchase completed.

I beg to recommend that this report be published as Bulletin No. 155.

I have the honour to be, Sir,  
Your obedient servant,

A. MCGILL,  
Chief Analyst.



INSPECTION OF MAPLE SYRUP—BULLETIN 155.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.	
							Quantity.	Cents.	Percentage on Dry Substance.			Malic acid value.
									Lead sub-precipitate.	Total ash.		

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.											
Feb. 14	Maple Syrup	33612	W. C. Anderson, Halifax, N.S.	45	Maple Tree Producers' Association, Waterloo, Que.	As Labelled	Pride of Canada brand. Guaranteed pure.	3.42			Genuine.
" 14	"	33613	Roney & Lovitt, Halifax, N.S.	30	Unknown.		No label on bottle.	3.87			"
" 14	"	33614	John Outhit, Halifax, N.S.	25	"		No label on bottle. Said to be made in Quebec.	4.12			"
" 17	"	33615	T. F. Courtney & Co., Halifax, N.S.	35	Mr. Lidell, Dunham, N.S.		No label on bottle.	3.41			"
" 18	"	33616	J. L. Archibald, Halifax, N.S.	50	Canada Maple Exchange, Montreal, P.Q.	Labelled	Small's Maple Leaf brand. Pure Maple Syrup.	3.23			"
" 26	"	33617	Colin McNabb & Co., Dartmouth, N.S.	35	Maple Tree Producers' Association, Waterloo, P.Q.	Labelled	Pride of Canada brand.	4.00			"
DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.											
Feb. 14	Maple Syrup.	29649	Vanwart Bros., cor. Charlotte and Duke Streets, St. John, N.B.	1.05	H. S. Colter, Upper Keswick Ridge, York County, N.B.	Labelled.	Pure Maple Honey. It is Maple Syrup and so sold.	3.02			Genuine.



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"	21	"	26650	Sussex Mercantile Co., Ltd., 10 oz. Main St., Sussex, N.B.	45 Sussex Mercantile Co., Ltd., Elgin, Albert Co., N.B.	"	"	4 58	"
"	"	"	26651	Robt. McLean, Main St., 3 lbs. N.B.	75 C. Hallett & Co., Bear Island, York Co., N.B.	"	"	2 86	"
"	25	"	26652	James Maier, Newcastle, 3 N.B.	40 Goddard Bros., Elgin, Albert Co., N.B.	"	"	4 12	"
Mar.	7	"	26653	W. A. Estabrook, Frederic- ton, N.B.	1 05 D. A. Niles, King's Clear, N.B.	"	"	4 95	"
"	7	"	26654	F. W. Samson, Fredericton, 3 N.B.	90 C. F. Hagerman & Sons Bear Island, N.B.	"	"	2 89	"

## DISTRICT OF QUEBEC—E. BELAND, INSPECTOR

Feb.	12	Maple Syrup.	26397	Napoleon Pelletier, Fraser 3 lbs. Villie, Quebec	75 Quebec Preserving Co.	Sold for pure.	0 50	0 40 0 10	Adulterated.
"	13	"	26398	P. E. Côté, St. Roch 3 "	"	"	0 29	0 20 0 10	"
"	14	"	26399	Union Agricole, St. Anne 3 Poectiere.	66 Unknown.	"	0 95	0 29 0 14	"
"	18	"	26405	A. Rinfret, 414 St. Joseph, 3 Quebec.	75 A. Rinfret, Quebec.	"	0 70	0 17 0 14	"
"	18	"	26406	Hamel & Bedard, 728 St. 3 Vallee, Quebec.	1 05 Hamel & Bedard, Quebec.	"	3 54	.	Genuine.
"	19	"	26407	Jos. Valadeau, 268 Rue du 3 Rou.	60 Jos. Valadeau, Quebec.	Label has the word 'flavored' writ- ten upon it.	0 83	0 15 0 11	Sold as artificial.



INSPECTION OF MAPLE SYRUP—BULLETIN 155.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
								Lead sub acetate precipitate.	Total ash.	Malic acid value.	Percentage on Dry Substance.	
1902.								p.c.	p.c.	p.c.		

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

Feb. 13	Maple Syrup.	27956	J. O. Montplaisir, Drummondville.	3 bots.	60	A. Jeannette, St. Germaine Grantliam.	.....	4	15	.....	.....	Genuine.
" 14	"	27957	J. H. A. Talbot, Arthabaskaville.	3 "	75	Ed. Talbot, Stanfold.	From a 2 gall. vessel.	3	72	.....	.....	"
" 18	"	27958	Bray Bros., Sherbrooke.	1 gal.	1 30	F. H. Sevigny & Son, ton.	Birch Vessel marked F. H. Sevigny & Son, Birchtown.	4	15	.....	.....	"
" 19	"	27959	Woodman & McKee, Coati cook.	1 "	50	Not known.	Marked 1/2 gall.	4	06	.....	.....	"
" 21	"	27960	Gosselin & Paradis, Magog.	10 tin.	80	S. G. Patch, Wellington, Brome Co.	Marked 10 lb.	4	09	.....	.....	"
" 22	"	27961	Horn Benjamin, St. Cesaire.	3 bot.	60	His brother.	.....	2	00	0 37	0 40	Doubtful.

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

Feb. 17	Maple Syrup.	32577	Beauvais, Lalonde & Co. 482 St. James St. Montreal.	2 bots.	50	Vendor.	Bottled by Vendor. Labeled Pure Maple Syrup.	2	77	.....	.....	Genuine.
" 20	"	32578	Canada Maple Exchange Ltd. 618 Beaudry St., Montreal.	3 "	75	"	Bottled by Vendor. Labeled Small's Selected Maple Syrup.	2	03	.....	.....	Doubtful.



11	"	21	"	.....	32579 J. N. Prieur, 907 St. Lawrence B., Montreal.	Law 3 "	75 Unknown	.....	Bottled by Vendor and sold as pure. Bottles not labeled.	0 18	0 13 0 26	Adulterated.
1	"	21	"	.....	32580 T. Lanthier, 221 Colonial Ave., Montreal.	2 "	50 E. Lanthier, St. Genevieve, P.Q.	.....	Bottled by Vendor. Sold as pure.	4 86	.....	Genuine.
5	"	25	"	.....	32581 J. S. Gauthier, St. Anne de Bellevue, P.Q.	3 "	75 Nap. Chabotte, Rigaud, P.Q.	.....	.....	3 72	.....	"
	"	26	"	.....	32582 J. L. Desaulniers, 492 St. Lawrence B., Montreal.	3 "	75 Hislop & Hunter, Montreal	.....	.....	0 18	0 07 0 14	Adulterated.

DISTRICT OF OTTAWA J. A. RICKY, INSPECTOR.

Feb.	12	Maple Syrup.	.....	34126 R. E. Powell, Wellington St., Ottawa.	1 Bot.	40 W. F. Goddard, agents.	.....	Labeled Trade of Canada Maple Syrup. Isagen-ine maple sap-syrup. Put up by the Maple Tree Producers Assoc. Montreal.	2 83	.....	Genuine.
"	12	"	.....	34127 C. B. McLean, Ottawa.	24 oz.	25 J. Brown, Philadelphia.	.....	Vendor said sample was taken from a barrel. No marks. Sold as pure maple syrup to Vendor.	4 43	.....	"
"	13	"	.....	34128 Mrs. Blankin, Ottawa.	24 "	29 From a Farmer	.....	Vendor said sample was bought from a farmer on the market.	0 14	0 06 0 32	Adulterated.
"	14	"	.....	34129 S. W. Lee, Ottawa.	1 bot.	60 H. N. Pate & Son, Ottawa	.....	Labeled Mountain Brand Maple Syrup. This brand guaranteed pure. Quebec Maple Co., Montreal.	1 32	0 27 0 27	"
"	19	"	.....	34130 Alex. Henery, Kenneyville.	1 gall.	100 J. P. Smith, Mountain Station.	.....	Vendor said Mr. J. P. Smith, the manufacturer guaranteed sample pure maple syrup.	3 66	.....	Genuine.
"	20	"	.....	34131 John Mayberry, Prescott	3 bots	90 From a farmer	.....	Bought in bulk from Farmer and bottled by Vendor or guaranteed pure maple syrup	2 98	.....	"



INSPECTION OF MAPLE SYRUP—BULLETIN 155.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.			
								Percentage on Dry Substance.	Lead sub-precipitate	Total ash	Malic acid value.				
													p. c.	p. c.	p. c.
DISTRICT OF KINGSTON—J. HOGAN, INSPECTOR.															
Feb. 11	Maple Syrup.	33072	W. Davies, Princess St., Kingston.	1 qt.	30	Maple Tree Assoc., Waterloo, Quebec.	Pride of Canada.	3.69	.....	.....	.....	Genuine.			
" 11	"	33073	W. Van Luven, Princess St., Kingston.	3 tins.	90	Small, Montreal	.....	2.15	.....	.....	.....	Doubtful.			
" 11	"	33074	J. S. Henderson, Brock St., Kingston.	3 bots.	90	Maple Tree Assoc., Waterloo, Quebec.	Pride of Canada	2.80	.....	.....	.....	Genuine.			
" 12	"	33075	W. A. Stephens, Port Hope	1 qt.	30	J. Solen, Toronto.	.....	0.13	0.13 0.28	.....	.....	Adulterated.			
" 13	"	33076	White & Gillespie, Peterboro	3 bots.	60	Thompson, Ardwick.	.....	3.72	.....	.....	.....	Genuine.			
" 13	"	33077	P. Connal & Son, Peterboro	1 qt.	50	.....	.....	3.40	.....	.....	.....	"			
DISTRICT OF TORONTO H. J. DAGGER, INSPECTOR.															
Feb. 24	Maple Syrup.	35038	John McInnis, Hamilton	1 qt.	25	Lucas Steel & Bristol, Hamilton.	Sample from store sealed. No label. Vendor said it was pure so far as he knew.	0.30	0.13 0.25	.....	.....	Adulterated.			
" 24	"	35039	C. H. & E. R. Almas, Hamilton.	1 pt.	18	Eastern Townships Syrup and Sugar Exchange, Quebec.	Sample from 2 gall. can. Vendor sold it as labelled. Guaranteed pure	3.44	.....	.....	.....	Genuine.			



"	27	35040	W. T. Richardson, St. Catharines.	1 "	15 Eastern Townships, Sutton, Quebec.	Sample from 5 gall. can in store.	1 10	0 15 0 32	Adulterated.
"	28	35041	F. B. Misener, Niagara Falls South.	1 "	15 Geo. Foster, Brantford.	Sample from 5 gall. can. Sold as pure. After 1 paid for syrup Vendor said it was a mixture.	0 43		Sold as mixture.
"	29	35042	J. C. Groom, Erie Av., Niagara Falls.	1 "	25 Balfour & Snyce, Hamilton	Sold as pure. After had paid for sample and said for what purpose the purchase was made was then told it was a mixture.	0 43		"
Mar	3	35043	G. O. Roche, Toronto.	1 qt.	35 Maple Tree Producers Assoc. Ltd., Waterloo, Que.	Labelled 1 Pride of Canada guaranteed absolutely pure and made from genuine sap.	4 83		Genuine.

DISTRICT OF LONDON T. KIDD, INSPECTOR.

Feb.	11	Maple Syrup.	30466 Charles Nairn, Goderich.	1 1/2 qt.	45 Maple Tree Producers Assoc. Waterloo, Ont.		2 40		Genuine.
"	13	"	30472 A. Beattie & Co., Stratford.	1 qt.	25 Arthur P. Tupper, Montreal.	Sold as maple flav our syrup.	0 98		Sold as mixture.
"	25	"	30481 Pickard & Fleming, St. Mary's.	1 qt.	25 McCormick Mfg. Co., London, Ont.	Branded Pure Maple Syrup.	4 18		Genuine.
"	28	"	30485 M. R. Folsom, Mitchell.	1 qt.	25 Lind, Kenning & Co., London, Ont.	Invoiced Maple Syrup.	0 21	0 26 0 24	Adulterated.
"	28	"	30487 A. G. Ault, Seaforth.	1 qt.	25 Geo. Foster & Sons, Brantford.		0 53	0 23 0 14	"

DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR.

Feb.	18	Maple Syrup.	34505 R. M. Drulard.	3 qts.	50 Maple Tree Producers Assoc. Waterloo, Que.		2 43		Genuine.
Mar.	11	"	34520 T. A. Rowat, London.	3 bots.	90 A. H. Ingalls, Abertoun, Que.		3 29		"
April	8	"	34523 C. R. Ead, St. Thomas	3 "	90 Maple Tree Producers Assoc. Waterloo, Que.		3 08		"
"	9	"	34525 Butler Bros., St. Thomas	3 "	45 Bought on market from a farmer.		4 15		"
"	9	"	34526 Stedman & Duncan, St. Thomas.	3 "	50 N. Hathaway, Iona, Ont		2 95		"
"	10	"	34528 Norman McLeod, London East.	3 "	60 Bought on market from a farmer.		3 28		"



INSPECTION OF MAPLE SYRUP—BULLETIN 155.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks, and Opinion of the Chief Analyst.
				Quantity.	Cents.			Lead sub-precipitate.	Percentage on Dry Substance.	Malic acid value.		
								p. c.	p. c.	p. c.	p. c.	

DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

Feb. 18	Maple Syrup	25894	Foley, Lock Larson, Winnipeg, Man.	30 Maple Tree Producers Assoc. Ltd., Waterloo, Que.	1 1/2 qts. 1 bot.	30	"	3.69			Genuine.
" 18	"	25895	J. A. McKerchar, Winnipeg, Man.	"	1 1/2 qts. in can.	45	"	4.36			"
" 18	"	25896	"	"	1 1/2 qts.	40	R. McPhail, Glengarry, Ont.	4.27			"
" 18	"	25897	Colville & Co., Winnipeg, Man.	Not given	1 gall.	40	"	6.09			"
" 27	"	25898	Hardy & Buchanan, Winnipeg, Man.	85 Maple Tree Producers Assoc. Ltd., Waterloo, Que.	1/2 "	85	"	3.81			"
" 27	"	25899	"	"	1 qt.	50	"	4.15			"

DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

Feb. 28	Maple Syrup	28901	L. B. Cochran, Medicine Hat	1 00 Maple Tree Producers' Association, Waterloo, Que.	1 qt.	1.00	"	4.54			Genuine.
" 29	"	28902	Hudson Bay Co., Leithbridge	"	2 lbs.	50	"	3.69			"
Mar. 2	"	28903	Cook & McKernicher, Pincher Creek.	"	1 qt.	60	"	3.81			"
" 5	"	28905	Hudson Bay Co., Edmonton.	"	1 "	50.	"	4.40			"



"	5	"	"	28906	The Acme Co., Edmonton..	1	"	50	"	"	4 15	"
"	5	"	"	28919	J. H. Morris & Co., Edmonton	1	"	50	"	"	4 05	"

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

Feb.	20	Maple Syrup.	34244	C. E. Turner, Vancouver, B.C.	1 qt.	50	Maple Tree Producers' Assoc., Ltd., Waterloo, Que.	Genuine; guaranteed to comply with Adulteration Act.	4 66	Genuine.
"	20	"	34245	F. Wright, Vancouver, B.C.	1 1/2	50	Blair, Franklin Centre, Que.	"	2 61	"
"	20	"	34246	Howell & Weir, Vancouver, B.C.	1 gall.	1 00	Canadian Maple Exchange	Pure, selected, guaranteed.	3 78	"
"	20	"	34247	Kyle & Sons, Vancouver, B.C.	1 1/2 gall.	1 00	Eastern Townships Maple Syrup and Sugar Exchange, Sutton, Quebec	Satisfaction guaranteed, anted.	3 53	"
"	20	"	34248	McDowell & Kerrins, Vancouver, B.C.	1 1/2 gall.	1 10	Not known.	"	3 26	"
"	20	"	34249	H. Duff, Vancouver, B.C.	1 qt.	75	Ramsay Bros & Co., Ltd.	Sold as Maple Syrup. See label. Flavour pointed over.	0 86	Sold as maple flavour.

DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR

Feb.	20	Maple Syrup	34845	Saunders Grocery Co., Ltd., Victoria, B.C.	1 1/2 lbs.	50	Canada Maple Exchange, Montreal, P.Q.	"	2 49	0 41 0 17	Doubtful.
"	20	"	34846	Saunders Grocery Co., Ltd., Victoria, B.C.	1 1/2	50	The Eastern Townships Maple Syrup and Sugar Exchange, Sutton, Que.	"	3 02	"	Genuine.
"	21	"	34847	West End Grocery Co., Ltd., Victoria, B.C.	1 1/2	60	Maple Tree Producers' Association, Waterloo, Que.	"	4 03	"	"
"	21	"	34848	Fred Carne, Victoria, B.C.	1 1/2	60	"	"	3 44	"	"
"	22	"	34848	Dixie H. Ross & Co., Ltd., Victoria, B.C.	1 1/2	60	W. R. Horner, Granby, Que.	"	3 42	"	"
"	22	"	34849	Windsor Grocery Co., Victoria, B.C.	1 1/2	60	Maple Tree Producers' Association, Waterloo, Que.	"	3 29	"	"







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## APPENDIX F.

## BULLETIN No. 156.—CONCENTRATED COMMERCIAL FEEDING STUFFS.

OTTAWA, June 8, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue,

SIR,—I beg to hand you a report of work done upon so-called *Feeding Stuffs* for Cattle. The samples (142 in number) in question were collected throughout the inspectoral districts of Canada, in December, 1907.

The immediate cause of this collection was a request made by Mr. M. Cumming, Secretary for Agriculture, Nova Scotia, dated August 16, 1907. In your letter of transmission to me, you ask if I am in a position to suggest a definition for Feeding Stuffs. I replied as follows:—

Referring to L. 44789, F. 94334, as regards the question of Cattle Foods, I beg to inclose for your information a memorandum on the subject, and would say:—

(1) That I do not think the defining of any standard for Cattle Food to be practicable.

(2) The manufacturer must be required to guarantee a value for each brand of food; and we must make him live up to such guarantee.

(3) The case seems to me quite analogous to that of Fertilizers; and I think the best way to meet the requirements will be to enact a Concentrated Food Stuffs Act, on similar lines to those which I have indicated in the case of Fertilizers.

Yours truly,

A. MCGILL,  
*Chief Analyst.*



9-10 EDWARD VII., A. 1910

## CONCENTRATED COMMERCIAL FEEDING STUFFS.

*Cattle Foods*, of the kind included above, consisted until quite recent years, of wheat bran, shorts, middlings, linseed meal, oil-cake, &c., or mixtures of these: substances which may be characterised as the normal by-products of milling, oil pressing, and similar industries.

The by-products named were obtained by well defined and long established methods of milling, and possessed a fairly constant character. When a farmer bought bran, or shorts or oil-cake, he was fairly well assured of getting an article whose value he could depend upon; and when a manufactured food was made from such materials it, too, possessed a fairly definite value.

With recent improvements in milling, and specially since the extensive manufacture of Cereal Breakfast Foods, there have resulted immense quantities of by-products unknown before, and varying extremely in their value as nutrients. The expansion of the cotton-seed industry, of beet sugar and molasses, of corn-oil manufacture, glucose waste, &c., has brought into existence other classes of by-products, having more or less value as cattle food. These articles are in many cases, not available separately, on account of impalatability or for other reasons. Hence has resulted a great increase in the amount of manufactured or so called "concentrated" stock food on the market.

It is apparent that this condition of things offers a great inducement to unscrupulous manufacturers to use valueless material in compounding their goods. The state of things is, indeed, quite analogous to that obtaining in the fertilizer industry; and the farmer is as much at the mercy of the Feed manufacturer as he is at the mercy of the "Fertilizer" manufacturer.

Connecticut, in 1895, was the first of the United States to recognize the necessity for legislation in regulating cattle foods, of the kind referred to. Since that date, Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Michigan and Wisconsin have enacted feeding stuff laws. The last named State only passed its feeding stuff law in 1901, and in amended form in 1905. I learn that several other States contemplate the immediate enactment of similar laws, as they find that they are made the dumping ground for goods which are refused sale in the States already safeguarded by having legal control of such articles.

The fundamental principles of the legislation above referred to, so far as I have acquaintance with it, are these:—

1. Requiring a license to sell.
2. Payment of a license fee (usually \$25 annually) to cover the cost of inspection.
3. The manufacturer must guarantee a minimum percentage of protein and fat in the article he offers for sale.
4. Continuous inspection of the article as found on the market.
5. Publication of analytical results.
6. Penalty for failing to reach the guaranteed values.

In his letter above referred to, Mr. Cumming says:—

"In the course of my travelling through Nova Scotia, and from the correspondence we constantly receive, I gather that there is a rather wide spread suspicion or distrust among our farmers as to the genuineness of many of our concentrated feeding stuffs



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"for sale in this province. These, as you may know, are largely imported, and bring a fairly high price."

Bulletin No. 116 of this Laboratory contains the results of analysis of 127 samples of feeds. This examination was made at the suggestion of the Department of Agriculture and the Ontario Agricultural College, and indicates that a suspicion concerning the value of these feeds is not confined to the province of Nova Scotia.

As already stated in the memorandum above quoted, a wide-spread demand for inspection of feeding stuffs has caused the enactment of laws in this regard in many of the States of the American Union.

These laws require that concentrated feeding stuffs offered for sale shall be registered, and their value in protein and fat, distinctly stated upon the package. Most of the laws in question, exempt from license the following classes of feeds :—

1. Hay and straw.
2. Whole seeds or unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat and broom corn.
3. Wheat bran and wheat middlings not mixed with other substances.
4. Wheat bran and wheat middlings mixed together, but not mixed with other substances.
5. Pure grains ground together, unmixed with other substances.

The Kentucky law (1906) exempts nothing from legal registration and inspection, except hay and straw.

This seems to me the more rational mode of proceeding. Hay and straw are the normal feeds for cattle. They are capable of being accurately valued by direct examination on the part of purchasers. The term "concentrated" applied to a feed, means that it contains nutritive material in a more concentrated form than hay and straw; and the necessity for inspection lies in the fact that the actual value of these feeds is not capable of being determined by ordinary observation on the part of a purchaser.

Even such well known feeds as bran, middlings, shorts, chop-stuff (*moulée*), &c., differ very greatly in value among themselves, as may be seen from the tabulated results of analysis, in this report.

A practicable way of meeting the case would seem to be the adoption of certain minimum standards for protein, fat and carbohydrates in bran, middlings and shorts, and such other recognized feeds as possess distinctive names. Perhaps it might be necessary to distinguish wheat bran from oat bran, and so for other grains; but this is a matter for consideration. In all cases of mixed feeds, the manufacturer should be required to state either or both the composition of the feed, and the value in percentage of protein, fat and carbohydrates, the last term being understood to mean the difference between the sum of moisture, ash, protein, fat and fibre, and the total weight of the material. In this way it will include starch, sugar and pentosans, which last usually constitute about 10 to 15 per cent of the whole, and have probably a less nutritive value than starch and sugar; although this value is not as yet well known.

If my view of this matter is correct, it will be necessary in the first instance, to define the terms bran, shorts, middlings, chop feeds, oil-cake, &c., and to insist upon all other feeds being identified by registration numbers, and offered for sale under a guaranteed value in protein, fat and carbohydrates. Of course it would remain open to any miller who preferred doing so, to register a special grade of bran, shorts or chop-feed, and to guarantee for it a minimum value in nutritive matter; but the terms bran, shorts, &c., should themselves be so defined as to fix a minimum value for material sold under these names.







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Some idea of the great variations existing in chop-feed may be obtained from examining the list of 28 samples, purchased under this name, and reported herein. (See Table V.) It will be seen that the protein value varies from 20.50 per cent to 61.3 per cent; the fat from 1.96 to 11.20 per cent and the carbohydrates from 75.27 to 55.98 per cent.

*Oil cake Meal; Linseed oil Meal; Cottonseed Meal.*—These feeds consist of the ground residues left after the oil has been extracted from linseed or cottonseed. Their feeding value depends upon the high percentage of proteids contained by them, and also upon the residual oil left after treatment in the press.

Since the introduction of the use of a solvent for the extraction of the oil (new process), the residual oil is much reduced in quantity, and many of the United States require that the oil cake meal shall be defined as “Old Process” or “New Process,” when offered for sale.

The following values for these meals are taken from Bulletin 108, Bureau of Chemistry, Washington :—

COTTON SEED MEALS.

Source of Samples.	No. of Samples.	PROTEIN.			FAT.		
		Maximum	Minimum.	Average.	Maximum	Minimum.	Average.
		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Pennsylvania, 1900-1901 . . . . .	8	46.00	42.50	44.40	12.25	8.77	10.10
New England, 1898-1899 . . . . .	205	52.60	40.30	45.40	17.00	6.50	11.20
New York, 1898-1899 . . . . .	14	50.69	41.68	46.64	13.16	7.56	10.82

LINSEED MEALS.

“ Old Process ” Meal.							
Pennsylvania, 1900-01 . . . . .	24	37.81	29.69	34.10	8.88	3.54	6.04
New England, 1898-99 . . . . .	25	38.90	31.80	35.70	9.60	2.70	7.20
New York, 1898-99 . . . . .	14	38.19	28.69	35.74	8.86	5.72	7.19
“ New Process ” Meal.							
Pennsylvania, 1900-01 . . . . .	3	34.63	34.00	34.25	2.92	2.19	2.63
New England, 1898-99 . . . . .	31	42.20	30.00	38.20	3.50	1.80	2.40
New York, 1898-99 . . . . .	5	37.56	35.19	36.14	4.79	2.91	3.57

In Table VI. of this report, are given the results of analysis of 27 samples of linseed meal or oil-cake meal. The contents vary as follows :—

Proteids	— Maximum	39.19
	Minimum	19.69
	Average	31.23
Fat	— Maximum	24.14
	Minimum	1.65
	Average	6.89
Carbohydrates	Maximum	54.68
	Minimum	26.99
	Average	42.17



It will be noted that while there is little difference between the protein content of old and new process meals, the oil content is much lower in new process meal. On account of this fact, and the considerable variation between maximum and minimum values, it is evident that the only just way of putting such feeds on the market is that of guaranty.

I recognize the importance of stating the food value of these articles in as simple terms as possible. For this reason it would be unwise to introduce discrimination between the varying nutritive values of starch, sugar, pentosans, and other substances which I have grouped under the general term carbo-hydrates. That such differences of value exist there can be no doubt ; but not only are they comparatively slight, but they are imperfectly known.

Fats are usually taken as having 2½ times the feeding value of starch. This valuation is based on their heat producing (calorific) equivalent ; and is probably not far from the truth, under normal digestive conditions.

If we could place a relative feeding value upon proteids it would then be possible to obtain a single expression for the relative values of feeds. The advantage of having such a simple expression of value is self-evident. Nor is the attempt to use such an expression of value now made for the first time. Both in Germany and in the United States (See Bull. 106, Wisconsin Agr. Exp. Station) efforts have been made to devise a way of stating in a single term, the values of stock-foods. Proteids, fats and starches have been relatively valued in the ratio 3 : 2 : 1 ; and many refinements have been attempted, these being based upon consideration of digestibility.

I am inclined to think that the above ratio gives too low a value to proteids ; and am further convinced that, in the present state of our knowledge regarding the digestibility and consequent nutritive value of the various proteids and carbohydrates, it is unwise and even misleading to attempt to give great refinement to any simple expression of relative value. Certainly the attempt to make such a value coincide with the trade values of these articles, is to ignore the varying conditions of production and demand. It is easily conceivable that on one farm a given feed may be of greater importance than on another, in the same way that a fertilizer of given composition may have a high value for a particular soil, and a lower value for a soil of a different character.

For the purposes of this report I have used the following relative values :—  
Per unit.

Carbohydrates (Starch, Sugar, Pentosans, &c.) .....	1
Fats .....	2
Proteids.....	4

So far as I am able to get information on the subject, these numbers indicate fairly well the value of the substances named. The numbers must be considered as subject to revision, and to change, on sufficient grounds.

In a general way they may be considered as furnishing a helpful guidance in comparing individual samples with each other. The following statement gives, at a glance, the extreme and mean values of these feeds, in terms of the relative value :—

	Samples.	RELATIVE VALUE.		
		Maximum	Maximum	Mean.
		p.c.	p.c.	p.c.
Bran—Table II. ....	27	132	113	126
Shorts—Table III. ....	29	144	116	134
Midlings—Table IV. ....	7	135	123	129
Cheap Feeds—Table V. ....	28	147	88	118
Old Meal—Table VI. ....	27	203	159	185



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That the above values approximate the trade values of the feeds, in a general way, appears from the following trade prices, (retail), which have been obtained from Ottawa dealers.

Bran .....	\$1.30 per cwt.
Shorts and Middlings .....	1.25 to \$1.35 per cwt.
Chop-feeds (Provender).....	1.60 per cwt.
Linseed Meal.....	4.00 per cwt.

Chop-feeds, vary so much in value, that they especially call for a guaranty. The proprietary foods, sold under distinctive brand names, should evidently carry a guarantee of value.

In Table VII. I have arranged 24 samples, of miscellaneous character, such as did not permit of their being classified with those included in the preceding tables. Several of these are not to be regarded as foods, in the usual sense, but rather as cattle medicines. Others are condimentary foods. Most of them are proprietary. The examination and discussion of this class of articles will be treated at some future time.

I beg to recommend the publication of this report as Bulletin No. 156.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



TABLE I.—CONCENTRATED COMMERCIAL FEEDING STUFFS.

Date of collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Inspector's Report.	Moisture.		Ash.		Protein.		Fat.		Fibre.	(Carbohydrates, &c., Difference.)	
				Quantity.	(Cents.)		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.					
1957.																	
DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.																	
Dec.	5	Cattle Feed.	27393 J. S. Cashew.	2 lbs.	5	Jas. Goldie, Guelph, Ont.	Sold as bran	9.04	5.78	15.75	3.26	8.80	57.37				
"	6	"	27395 DeWolf & Lamont, Kentville, N.S.	2 "	5	Campbell Co., St. Thomas, Ont.	"	8.75	6.36	14.00	3.45	8.92	58.52				
"	6	"	27396 " " " " " "	2 "	5	" " " " " "	Sold as middlings	5.96	4.22	13.81	3.64	5.90	66.47				
"	6	"	27397 W. A. Smith, Kentville, N.S.	2 "	5	The Tillson Co., Tillsonburg, Ont.	Sold as wheat-bran	7.95	6.30	14.06	3.49	8.40	59.80				
"	6	"	27398 S. L. Cross, Kentville, N.S.	2 "	5	Western Canada Co., S. Mary's, Ont.	Sample taken from bag labelled "feed flour."	8.85	2.22	15.50	3.99	1.68	67.50				
"	7	"	27399 R. E. Harris, Wolfville, N.S.	2 "	5	The Ogilvie Flour Mills Co. Montreal.	Labelled "Moulee" on bag from which sample was taken.	8.50	4.36	15.75	3.42	5.64	62.33				
"	10	"	27400 E. D. Moore, Liverpool, N.S.	2 "	10	Vendor.	Sold as oats and corn; half and half.	9.16	1.76	10.77	3.39	5.85	69.07				
"	16	"	33485 E. W. Walker, Dartmouth, N.S.	2 "	5	Brant Milling Co., Brantford, Ont.	Sold as shorts.	9.12	4.68	15.69	3.53	5.28	51.79				
"	16	"	33486 Nova Scotia Milling Co., Dartmouth, N.S.	2 "	5	Ogilvie Milling Co., Montreal.	Sold as middlings.	8.55	6.08	17.50	2.36	14.40	51.11				
"	16	"	33487 Colin McNabb, Dartmouth, N.S.	2 "	5	Unknown.	"	8.00	6.06	17.50	2.36	14.40	61.68				



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DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.

Nov.	29	Oil Meal	31175	Auld Brothers, Charlotte town.	2 lbs	J. J. Livingston, Ont.	7 75	4 92	35 70	1 73	7 28	42 62
"	29	Wheat Middlings.	31176	F. L. McNutt, Charlotte town.	2 "	4 Ozykne Milling Co.	6 05	4 50	16 81	2 87	9 68	60 09
"	30	Feed Flour	31177	R. E. Mutch, Charlotte town.	2 "	G. Carters & Sons, St. Mary's Ont.	7 60	2 20	14 50	1 60	5 12	68 98
"	30	Banner Feed.	31178	P. E. J. Hay & Produce Co., Charlottetown.	2 "	American Cereal Co.	7 45	2 26	7 69	2 31	9 72	70 57
"	30	Molae	31179	Auld Bros., Charlotte town.	2 "	Quaker Oats Co., Peterboro, Ont.	5 25	5 28	15 38	5 23	7 48	61 38
Dec.	3	Bran	31180	Cliffin & Co., Charlotte town.	2 "	Myers Milling & Elevator Co., Lester, Ont.	6 50	5 70	12 25	1 70	9 28	64 57
"	4	Feed Corn.	31181	R. T. Holman, Summerside.	2 "	Geo. Robertson, Summerside.	8 10	1 82	10 94	3 42	5 08	70 64
"	4	Molae	31182	"	2 "	Unknown.	7 20	6 20	9 44	3 36	11 28	62 52
"	5	Molascuit.	31183	R. Tuplin & Co., Kensington.	2 "	E. P. Crow, Stewiacke, N.S.	10 30	20 40	4 90	2 50	6 56	55 34
"	5	Oil Cake	31184	T. Kennedy Kensington.	2 "	Unknown	7 60	4 96	36 56	2 04	11 64	37 20

DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

Dec.	3	Bran	29594	Wm. Dunlop & Sons, Sydney St., St. John, N.B.	12 3 lbs	25 Lake of the Woods Milling Co., Kewatin, Canada.	9 05	6 50	14 44	1 66	14 24	44 11
"	4	Cracked Corn	29595	Maritime Corn Meal Mill, Mill, Hanover St., St. John, N.B.	3 "	10 Maritime Corn Meal Mill, Hanover St., St. John, N.B.	9 25	1 36	8 84	1 91	11 00	67 64
"	5	Shorts	29596	C. H. Peters Sons, Ward St., St. John, N.B.	3 "	25 John Campbell, St. Thomas, Ont., Canada.	9 15	4 10	10 44	4 97	7 12	64 22
"	10	Middlings	29597	Joshua E. Cowan, 99 Main St., St. John, N.B.	3 "	10 Dewart Bros., Fairville, St. John Co., N.B.	8 40	4 42	17 94	3 60	9 00	56 64
"	17	Oil Cake	29598	The Sussex Mercantile Co., Ltd., Sussex, N.B.	3 "	15 Linsced Mills, Montreal, P.Q.	7 75	5 20	31 94	2 65	6 68	45 78
"	18	Feeding Meal.	29599	The Chas. Fawcett Mfg Co., Ltd., Moncton, N.B.	3 "	15 Vanders	10 30	1 08	8 75	3 58	4 32	71 97
"	20	Middlings.	29600	Band & Peters, New castle, N. B.	3 "	20 Ozyvie's Milling Co., Bag marked Ozyvie's 100 lb. Middlings, Canada.	8 36	4 18	12 94	3 89	6 90	63 73
"	21	Banner Cattle Feed	29601	B. A. Mowatt, Cambell ton, N.B.	3 "	15 Quaker Oats Co., Peterboro, Ont.	10 16	2 40	9 56	2 44	7 00	68 44



TABLE I. CONCENTRATED COMMERCIAL FEEDING STUFFS.

Date of Collection	Name of Sample	No. of Sample	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.		Moisture.		Ash.	Protein.	Fat.	Fibre.	Carbohydrates, &c. (Difference).
				Quantity.	(Units)				p. c.	p. c.					
DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.— <i>Con.</i>															
Jan.	1 Cotton Seed Meal	26342	F. H. Everett, Fredericton, N.B.	3 lbs.	15	Humphreys, Godwin & Co., Memphis, Tennessee, U.S.A.	Cow feed, cotton seed meal, "Dixie" brand.		5.55	4.66	39.19	5.17	18.44	36.99	
"	6 Cow Feed	26343	J. M. Tripp, Woodstock, N.B.	3 " "	15	Vendors	From wheat, native barley, oats and buckwheat. First 3 equal parts less buckwheat		10.40	2.72	10.94	1.80	18.16	55.98	
DISTRICT OF QUEBEC—E. BELAND, INSPECTOR.															
Dec.	3 Feeding Stuff, birds	26344	R. W. Williams, Connel Notre Dame et du Platon.	3 lbs.	30	William Ewing Co., Montreal.			*	*	*	*	.....	.....	*
"	3 Feeding Stuff, birds	26345	O. Carignan et Fils, Trois Rivières, P.Q.	3 " "	30	L. Chaput Fils & Co.			*	*	*	*	.....	.....	*
"	3 Feeding Stuff, birds	26346	" " "	3 " "	30	Hudon & Ursule			*	*	*	*	.....	.....	*
"	3 Flour Imperial	26347	" " "	2 " "	4	Ogilvie Flour Co.			9.00	2.10	15.48	3.08	1.08	62.26	
"	3 Middlings	26348	" " "	2 " "	4	"			7.90	4.16	16.12	2.60	6.24	62.98	
"	3 Shorts	26349	" " "	2 " "	4	"			8.60	4.76	17.58	4.32	5.64	59.10	
"	3 Oil Cake	26350	" " "	2 " "	5	"			7.15	5.30	35.87	5.57	4.92	41.19	
"	3 Bran	26351	" " "	2 " "	3	"			8.35	5.58	10.44	3.65	7.20	64.78	
"	4 Shorts	26352	T. O. Gauthier, 33 Rue des Forges.	2 " "	4	"			7.90	4.40	17.50	4.98	7.72	57.50	
"	4 Bran	26353	Bellefleur & Giroux, Rue des Forges.	2 " "	5	"			7.87	5.58	14.87	3.93	6.64	61.11	

\* Bird seed, not analyzed. Collected by mistake, not cattle food.



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## DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

14 Nov.	20 Anglo Saxon Stock Food....	27901 J. M. Palardy, St. Hyacinthe.	1 box	25	Nat. Drug Co., Montreal Sold as a fattener	6 65	11 76	14 00	9 63	13 00	44 96
"	20 Herbageum .....	27902 M. Bousquet, St. Hyacinthe.	2 lbs.	30	Beaver Mfg. Co., Galt, Ont.	6 75	13 30	22 50	6 41	6 78	44 26
Dec.	2 Wheat Bran....	27903 Jos. Chartier, St. Jean.	1 "	2	Chas. R. Cousins & Co., St. Jean.	8 35	6 00	15 31	3 21	6 88	60 25
"	3 Shorts....	27904 J. A. Lequin, Farnham.	1 1/2 "	.....	Ogilvie Milling Co., From a 100 lb. sack Montreal.	8 70	4 92	18 38	3 54	7 08	57 38
"	3 Moulee de blé.....	27905 " "	1 1/2 "	.....	" "	8 75	4 20	20 50	3 53	5 52	57 50
"	1 "Victor" Stock Food....	27906 C. E. Roy, Megantic.	14 "	.....	The American Cereal Sack market corn and Co., Peterboro. oat feed.	6 80	3 40	7 50	5 52	12 92	63 86
"	5 Oil Cake Meal Ground....	27907 C. O. Genest & Fils, brooke.	her-14 "	.....	J. J. Livingston, Baden, Sack marked pure oil Ont., and Montreal, cake meal.	6 10	5 54	34 38	4 66	7 88	41 44
"	5 Shorts.....	27908 A. McKenzie, Richmond.	1 1/2 "	.....	Que. The Renfrew Milling Co., Sack marked the Renfrew Ont. frew Roller Mills Co.	6 65	4 58	18 19	4 47	8 84	57 27
"	6 Moulee "Schumacher Brand,"	27909 E. Brunneau, Victoria ville.	14 "	.....	The Quaker Oats, Peterboro, Ont. From 100-lb. sack, No. 27909.	7 30	3 36	11 58	2 58	10 08	65 10
"	12 Oil Cake Meal Ground .....	27934 E. Lafontaine, mondville.	Drum 3 "	10	Win. Ewing & Co., Mont No. 27907 tread.	8 65	5 22	37 88	1 83	7 72	38 70

## DISTRICT OF MONTREAL J. J. COSTIGAN, INSPECTOR.

Dec.	4 Shorts .....	31529 S. Thibault & Co, Montreal.	Mont 2 lbs.	5	Brunneau, Currie & Co., Montreal.	7 60	4 26	16 81	5 60	6 80	58 63
"	4 Moulee .....	31530 " "	2 "	5	Mig. at L'Epiphanie, Que.	8 30	2 90	20 41	2 26	8 88	57 25
"	4 Bran.....	31531 " "	2 "	5	Ogilvie Milling Co., Montreal.	8 20	5 64	16 25	4 04	9 36	56 51
"	4 Linseed Meal....	31532 James Scott & Co, Montreal.	Mont 2 "	.....	Dom. Linseed Oil Co., Montreal.	2 62	3 48	24 06	9 62	9 68	51 14
"	4 Oil Cake Meal	31533 " "	2 "	.....	" "	7 05	5 40	35 87	5 47	5 96	40 25
"	4 Banner Feed .....	31534 " "	2 "	.....	American Cereal Co.	7 70	3 14	10 06	4 86	7 08	67 16
"	9 Bran.....	31535 McDonald & Robb, Montreal.	Val 2 "	5	Vendors .....	7 50	5 50	14 69	4 10	7 28	60 93
"	9 Oil Cake Meal .....	31536 " "	2 "	5	Dom. Linseed Oil Co.	6 80	5 18	33 94	5 84	6 20	44 04
"	9 Shorts.....	31537 " "	2 "	5	Vendors .....	7 65	3 84	16 81	5 31	7 64	58 75
"	9 Mixed Provender..	31538 " "	2 "	5	" "	8 40	2 02	13 31	1 96	3 12	71 19



TABLE I.—CONCENTRATED COMMERCIAL FEEDING STUFFS.

Date of Collection	Nature of sample.	No. of sample.	Name and address of Vendor.	Cost.		Inspector's Report.	Moisture.	A. S.		Protein.	Fat.	Fiber.	Carbohydrates, etc., (Difference).
				Quantity.	(Cents).			p. c.	p. c.				
DISTRICT OF OTTAWA—J. A. RICEY, INSPECTOR.													
Dec. 9	International Stock Food.	34105	J. A. Banner, Ottawa.	2 lbs.	10	International Stock Food Marked on pail, Every Co., Toronto, Ont. and pail 25 lbs., \$3.75, Minneapolis, Minn. saves \$7.00 worth of corn and oats.	6.70	14.74	12.41	3.38	8.16	54.58	
"	Herbageum Poultry Food.	34106	" " " "	2 "	30	Beaver Mfg. Co., Galt, Ont. Bag marked, Herbageum is unsurpassed for all kinds of poultry. Superior to all else for fattening and for production of eggs.	6.70	15.26	22.31	6.22	7.80	41.71	
"	Oil Cake.	34107	R. Russell, Ottawa.	2 "	10	J. & J. Livingston, Baden and Montreal.	7.75	5.30	35.63	6.45	6.28	38.59	
"	The Canada Stock Food.	34108	W. A. Blyth, Ottawa.	2 "	50	The Canada Stock Food Marked. Medicated food. Prepared from hanks, roots and seeds and herbs. Mfg. by the Canada Stock Food Co., Brockville, Ont.	7.20	11.40	16.13	7.12	9.04	49.11	
"	Shorts.	34109	" " " "	2 "	5	Orilvie Flour Mills Co., Montreal and Winnipeg.	8.40	4.30	17.00	3.08	7.68	59.54	
"	Banner Cattle Food.	34110	Miller & Co., Ottawa.	2 "	5	American Cereal Co., Peterboro, Ont.	8.20	2.34	8.69	2.00	9.32	68.85	
"	Schumacher Stock Food.	34111	" " " "	2 "	5	Quaker Oats Co., Peterboro, Ont. Stock Food is not sold in bulk. None genuine unless in sacks. Analysis. Crude protein 10 to 12, crude fat 4 to 5.	8.50	3.22	10.74	4.96	9.16	63.12	



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"	14 Bran.	34112	Allen & Co., Ottawa	2 "	10	Satchell & Muir Co., Mon- rovia.	9 00	5 24	14 69	2 80	13 64	51 63
14	" 14 Provender.	34113	H. Pullan, Ottawa	2 "	10	The Ottawa Milling Co.	8 00	4 00	7 87	1 60	10 16	68 37
14	" 14 Shorts.	34114	L. O. Joly, Ottawa	2 "	5	Not known	7 65	4 64	16 22	5 35	5 96	60 18

DISTRICT OF KINGSTON. J. HOGAN, INSPECTOR.

Dec.	2 Bran.	32487	J. A. Furlong, Brock St., Kingston	2 lbs.	5	Quebec Oats Co., Port Huron, Ont.	7 00	6 18	15 69	4 24	7 36	58 93
"	2 Oil Cake.	32488	" "	3 "	10	N. C. Pearson Co., Kingston	6 85	5 30	38 75	5 71	6 04	37 30
"	2 Shorts.	32489	" "	3 "	5	Edwin Hogan Milling Co., Guelph	7 50	4 00	17 31	5 44	5 92	59 71
"	2 Bran.	32490	W. J. Peters, Brock St., Kingston	3 "	10	Lake of the Woods Mill- ing Co.	8 25	6 20	15 25	5 61	5 26	58 40
"	2 Oil Cake.	32491	" "	3 "	15	Dominion Oil Co., Port Huron	6 25	5 40	36 71	5 87	5 12	41 65
"	2 Shorts.	32492	" "	3 "	10	Lake of the Woods Mill- ing Co.	6 00	4 38	18 56	5 45	6 22	58 44
"	2 Bran.	32493	D. Hartman, Market St., Kingston	3 "	10	Superior Milling Co.	7 00	5 58	14 50	4 66	7 48	59 88
"	2 Shorts.	32494	A. H. Kuntz, Market St., Kingston	3 "	10	" "	7 70	3 82	15 50	5 02	7 58	60 68
"	3 Shorts.	32495	H. E. Lambold, Front St., Kingston	3 "	5	Western Canada Milling Co.	7 00	3 96	17 25	5 33	6 02	58 37
"	3 Bran.	32496	" "	3 "	10	Quebec Oats Co., Port Huron	8 70	5 60	15 48	4 02	6 92	59 88

DISTRICT OF TORONTO. H. J. DAVIER, INSPECTOR.

Dec.	9 Ground Oil Cake.	33351	A. V. Campbell & Sons, 215 Pembroke St., Toronto	2 "	6	W. P. Rogers, 2nd Mt Charles, Virginia	7 10	5 50	35 38	1 65	9 52	39 80
"	10 Babby's Bran & Equi- valent.	33352	G. G. B. Bro., Market St., Toronto	2 "	10	J. J. P. & Sons, 1, 3, 5, 7 Pearl	6 20	5 40	14 75	7 08	7 16	59 85
"	11 Ground Cotton Seed Meal.	33353	G. G. B. Bro., Market St., Toronto	2 "	10	Acadia Manufacturing	3 50	3 28	23 37	24 14	7 04	38 67
"	12 Lard Meal.	33354	James Chapman, Toronto	2 "	10	L. L. Lammerton Bros., Toronto	3 15	3 88	26 00	11 57	5 60	46 74
"	13 Ground Corn.	33355	G. G. B. Bro., Market St., Toronto	2 "	10	Green & Selph, Ltd., Toronto	9 40	1 38	8 31	1 82	3 72	75 27
"	13 Stock Feed Stuff.	33356	M. Campbell Bros., Market St., Toronto	2 lbs.	50	Do. Star Co., London	7 90	14 68	19 88	1 61	5 72	60 16







Dec. 23	"	35014	Patrick Bros., Woodstock	2 00	8	Vendors	.....	Litseed meal. Sample was taken from sack in store.	4.00	3.82	23.63	15.12	6.76	46.67
"	24	35015	C. S. Catch, Windsor	3 00	25	W. A. Freeman & Co., Hamilton.	Oil Cake Meal		4.00	6.04	24.06	11.08	7.88	46.94
"	26	35016	Jos. D. Sinton, 5th St., opposite County Bldgs.	2 00	10	Freeman Fertilizer Co., Hamilton.	Sample taken from sack labeled Meat Meal, with trade mark "Best on Earth."		4.80	27.48	48.44	7.88	8.44	2.96
"	27	35017	R. Hookway & Son, Len- don.	2 00	5	Hunt Bros., City Mills, London.	Wheat Bran		8.25	5.80	15.56	3.71	7.48	59.30
"	27	35018	Chas. G. Way, London	2 00	5	Wallace & Best Sugar Co., Wallaceburg.	New Stock Food, made from best pulp dried, and other materials.		6.80	6.32	11.81	3.04	9.60	62.33

DISTRICT OF MANITOBA. A. C. LARIVIERRE, INSPECTOR.

Dec. 10	Shorts	25669	Rae & Co.	2 00	5	Western Milling Co., Brandon, Man.			6.50	4.10	17.06	3.37	7.00	61.32
"	12 Poultry Food	25671	Partridge & Co., Winnipeg	2 00	25	Vendors			6.00	9.20	17.50	6.38	32.76	7.26
"	12 Bran	25672		2 00	10	Winnipeg Flour Mills			7.50	6.24	14.00	4.31	8.48	59.04
"	12 Shorts	25673		2 00	5				8.00	2.48	16.38	5.28	7.72	60.14
"	12 Bran	25674	Wilson Bros., Winnipeg	2 00	5	Western Milling Co., St. James, Man.			7.40	6.60	14.94	4.72	7.88	58.46
"	12 Shorts	25675		2 00	5				7.00	4.62	17.25	5.52	6.44	59.17
"	12 Shorts	25676	Olson & Sons, St. James, Winnipeg.	2 00	25	Winnipeg Flour Mills			7.50	4.18	15.31	4.57	5.36	63.03
"	12 Bran	25677	"	2 00	"	"			8.00	6.10	14.94	3.60	10.04	57.32
"	12 Oil cake	25678		2 00	"	"			7.90	5.84	31.63	4.58	7.84	44.21
"	12 Ground Linseed	25679		2 00	"	"			4.67	3.94	19.69	14.50	7.16	49.97

1908.

DISTRICT OF CALGARY. R. W. FLETCHER, INSPECTOR.

Jan. 9	Chop Barley	25850	J. S. Lane, Calgary	2 00	5	Vendor			9.00	3.90	11.37	1.20	9.88	64.65
"	9 Chop Oat	25857	"	2 00	5	"			8.50	3.16	9.62	2.49	9.56	66.62
"	9 Shorts	25858	"	2 00	5	"			9.10	3.20	18.68	2.22	10.24	53.56
"	9 Bran	25859	C. Wallace, Calgary	2 00	5	Calgary Milling Co., Calgary			9.25	4.70	13.56	3.39	7.80	61.30
"	9 Shorts	25860	"	2 00	5	"			8.80	2.90	14.79	3.64	6.32	63.49







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" 16 Oat Chop.	32184 W. Erickson & Son, Vancouver.	3	"	10	Vendors	10 00	2 30	10 06	2 20	8 72	66 72
" 16 Wheat Chop	32185 The Vancouver Milling & Grain Co., Vancouver B.C.	3	"	5	"	9 50	1 84	14 26	1 90	3 38	69 12
" 16 Chop. . . . .	32186, " " " "	3	"	5	"	9 00	2 66	9 71	3 84	12 20	62 59

## DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR.

1908.											
Jan. 4 Oil Cake.	34805 Geo. S. Pearson & Co., Nanaimo, B.C.	2	lbs	5	W. Rennie, Toronto.	6 95	5 92	35 81	5 53	9 25	36 51
" 17 Shorts	34807 Sylvester Reed Co., Victoria.	2	"	5	Moose Jaw Mills, Moose Jaw.	8 15	2 82	15 81	2 65	8 36	62 21
" 17 Bran.	34808 " " "	2	"	5	Columbia Flour Mills, Endersby, B.C.	8 35	4 44	15 75	1 83	7 25	62 35
" 17 Oil Cake.	34809 " " "	2	"	5	J. A. Bely & Co., Winnipeg.	6 00	5 42	32 38	6 04	9 36	40 90
" 17 Bran.	34810 Geo. N. Gower, Victoria, B.C.	2	"	5	Columbia Flour Mills, Endersby, B.C.	8 65	6 38	15 13	2 07	7 08	60 69
" 17 Shorts	34811 " " "	2	"	5	" "	8 35	4 44	15 13	1 81	6 48	62 79
" 17 Oil Cake.	34812 " " "	2	"	5	Linsell Oil Mills, Winnipeg.	5 80	5 10	32 75	5 40	9 88	41 77
" 17 " " "	34813 Scott & Peden, Victoria, B.C.	2	"	5	" "	7 25	5 06	29 75	3 47	11 54	42 93
" 17 Shorts	34814 " " "	2	"	5	Hall Milling Co., London.	8 55	3 60	15 13	1 61	9 52	61 59
" 17 Bran.	34815 " " "	2	"	5	Vancouver Milling & Grain Co., Vancouver.	7 55	5 96	14 38	3 13	9 52	59 46
Choice Ruby Chop.	See File 94797.					6 50	4 30	6 13	2 30	21 72	59 05



TABLE II.—CONCENTRATED COMMERCIAL FEEDING STUFFS.

BRAN.							
Number of Sample.	Moisture.	Ash.	Proteins.	Fat.	Fibre.	Carbohydrates, Sec. (Difference).	Relative Value.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	*
25672.....	7.90	6.24	14.00	4.34	8.48	59.04	124
25674.....	7.40	6.00	14.94	4.72	7.88	58.46	129
25677.....	8.00	6.10	14.94	3.60	10.04	57.32	125
26351.....	8.35	5.58	10.44	3.65	7.20	64.78	111
26353.....	7.87	5.58	14.87	3.93	6.64	61.11	128
27193.....	9.04	5.78	15.75	3.26	8.80	57.37	126
27295.....	8.75	6.36	14.00	3.45	8.92	58.52	124
27397.....	7.95	6.30	14.00	3.49	8.40	59.80	123
27493.....	8.35	6.00	15.31	3.21	6.88	60.25	113
28859.....	9.25	4.70	13.56	3.50	7.80	61.30	122
28863.....	7.15	5.28	15.31	4.85	10.12	57.20	128
28965.....	7.75	4.10	14.00	4.13	7.08	62.88	128
29594.....	9.05	6.50	14.44	1.66	14.24	54.11	115
31531.....	8.20	5.64	16.25	4.04	9.36	56.51	129
31180.....	6.50	5.70	12.25	1.70	9.28	64.57	116
32197.....	9.20	5.10	17.41	3.36	8.68	56.26	132
32181.....	9.65	5.72	14.87	2.87	8.64	58.25	123
32487.....	7.60	6.18	15.00	4.24	7.50	58.93	131
32490.....	8.25	6.20	15.25	5.64	6.26	58.46	130
32493.....	7.90	5.58	14.50	4.66	7.48	59.88	126
32495.....	8.70	5.60	15.48	4.02	6.92	59.28	129
33339.....	9.76	6.16	15.12	2.39	13.25	53.32	119
34112.....	9.00	5.24	14.00	2.80	13.64	54.63	119
34808.....	8.35	4.44	15.75	1.83	7.28	62.35	130
34810.....	8.65	6.38	15.13	2.07	7.08	60.60	126
34815.....	7.55	5.90	14.38	3.13	9.52	59.46	123
35017.....	8.25	5.80	15.00	3.71	7.48	59.20	129
Mean9.....	8.31	5.73	14.74	3.48	8.69	59.15	126



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TABLE III.—CONCENTRATED COMMERCIAL FEEDING STUFFS  
SHORTS

Number of Sample	Moisture	Ash	Proteins	Fat	Fibre	Carbohydrates, 85% difference	Relative value
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	*
29073.....	6.55	3.4	17.06	3.37	7.06	60.22	136
29074.....	8.00	2.48	16.48	3.28	7.72	60.14	136
29077.....	7.00	4.62	17.25	3.32	6.44	59.17	139
29081.....	7.55	4.18	16.98	4.37	5.82	58.08	133
29086.....	6.00	4.76	17.38	4.32	5.64	58.19	137
29092.....	7.88	4.40	17.50	4.38	7.72	58.50	137
29093.....	8.70	4.92	18.38	3.34	7.08	57.38	138
29098.....	6.95	4.68	18.70	4.47	8.84	57.33	139
29878.....	9.10	3.20	18.98	3.22	10.78	57.00	139
29880.....	8.80	3.08	17.70	3.64	6.32	62.49	131
29881.....	9.70	3.14	18.92	3.18	8.88	59.78	136
29892.....	9.30	2.98	18.98	3.10	8.06	59.74	134
29899.....	8.25	4.08	17.90	4.67	7.84	59.27	127
29900.....	9.15	4.10	19.44	4.97	7.12	60.22	116
30000.....	7.60	4.26	16.81	4.90	6.80	58.69	138
30007.....	7.65	3.84	16.90	3.37	7.64	58.70	137
30008.....	8.80	3.64	17.41	3.38	8.08	58.11	134
30182.....	9.20	4.34	16.10	4.86	8.04	58.47	133
30480.....	7.55	4.00	17.70	3.41	5.92	58.80	139
30492.....	6.95	4.38	18.90	3.45	6.22	58.46	144
30499.....	7.75	3.32	17.90	3.72	7.28	58.68	133
32495.....	7.60	3.96	17.20	3.70	6.92	58.60	138
32500.....	4.68	3.40	16.20	3.42	8.00	58.70	128
33185.....	9.12	4.68	16.60	3.53	5.28	61.70	132
34000.....	8.40	4.20	17.00	3.68	7.08	58.76	134
34114.....	7.65	4.64	16.70	3.35	8.00	58.78	136
34807.....	8.15	2.82	16.80	2.65	8.33	57.70	131
34811.....	8.33	4.44	15.13	1.81	6.48	58.70	128
34812.....	8.33	5.60	15.70	1.97	9.32	58.68	126
Means.....	8.35	3.96	16.94	4.23	7.33	58.81	134

\* For explanation of the relative values see page 8.



TABLE IV.—CONCENTRATED COMMERCIAL FEEDING STUFFS.

MIDDLEINGS.

Number of Sample.	Moisture	Ash.	Proteids.	Fat.	Fibre.	Carbohydrates &c. (Difference).	Relative value.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	*
26348 .	7.90	4.16	16.12	2.60	6.24	62.98	133
27396 ..	5.96	4.22	13.81	3.64	5.90	66.47	130
29597.	8.40	4.42	17.94	3.60	9.00	56.64	135
29600.	8.36	4.18	12.94	3.89	6.90	63.73	123
31176.....	6.05	4.50	16.81	2.87	9.68	60.09	134
33486 .	8.55	6.08	17.50	2.36	14.40	51.11	125
33487..	8.00	6.06	17.50	2.36	14.40	51.68	126
Means	7.60	4.80	16.09	3.05	9.50	58.96	129

\* For explanation of the relative value see page 8.



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TABLE V.—CONCENTRATED COMMERCIAL FEEDING STUFFS.  
CHOP FEED (MOULÉE).

Number of Sample.	Moisture.		Ash.		Proteins.		Fat.		Fibre.		Carbohydrates, &c. (Difference).	Relative value.	
	p.	c.	p.	c.	p.	c.	p.	c.	p.	c.			
26347.....	9	00	2	10	15	48	3	08	1	08	69	26	137
27398.....	8	85	2	32	15	50	3	99	1	84	67	50	137
27399.....	8	50	4	36	15	75	3	42	5	64	62	33	132
27400.....	9	16	1	76	10	77	3	39	5	85	69	07	119
27905.....	8	75	4	20	20	50	3	53	5	52	57	50	117
27909.....	7	30	3	36	11	38	2	58	10	08	65	10	117
28856.....	9	00	3	90	11	37	1	20	9	88	61	65	112
28857.....	8	55	3	16	9	62	2	49	9	56	65	62	110
29595.....	9	25	1	36	8	84	1	91	11	00	67	64	107
29599.....	10	00	1	08	8	75	3	58	4	32	71	97	111
29601.....	10	16	2	40	9	56	2	44	7	90	68	44	112
29603.....	10	40	2	72	10	94	1	80	18	16	55	58	103
31177.....	7	60	2	20	14	50	1	60	5	12	68	58	120
31178.....	7	45	2	26	7	69	2	31	9	72	70	57	106
31181.....	8	10	1	82	10	94	3	42	5	08	70	64	121
31530.....	8	30	2	90	20	41	2	26	8	88	57	25	113
31534.....	7	70	3	14	10	06	4	86	7	08	67	16	117
31538.....	8	40	2	02	13	31	1	96	3	12	71	19	128
32177.....	9	00	3	32	8	66	3	15	7	92	70	95	112
32183.....	9	80	2	36	10	25	3	08	3	40	71	11	118
32184.....	10	00	2	30	10	06	2	20	8	72	66	72	111
32185.....	9	50	1	84	14	26	1	90	3	38	69	12	129
32186.....	9	00	2	66	9	71	3	84	12	20	62	59	110
33365.....	9	50	1	38	8	31	1	82	3	72	75	27	112
34110.....	8	20	2	34	8	69	2	60	9	32	68	85	109
34111.....	8	80	3	22	10	74	4	96	9	16	63	12	116
34113.....	8	00	4	60	7	87	1	60	10	16	68	37	103
Special.....	6	50	4	30	6	13	2	30	21	72	59	05	88
Means.....	8	75	2	67	11	44	2	79	7	80	66	68	118

\* For explanation of the relative value see page 8.



TABLE VI.—CONCENTRATED COMMERCIAL FEEDING STUFFS.  
MEAL OR OIL CAKE MEAL.

Number of Sample.	Moisture.	Ash.	Proteids.	Fat.	Fibre.	Carbohydrates, &c. (Difference).	Relative value.
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	*
25678 .....	5·90	5·84	31·63	4·58	7·84	44·21	180
25679 .....	4·65	3·94	19·69	14·59	7·16	50·97	159
25650 .....	7·15	5·30	35·87	5·57	4·92	41·19	196
27007 .....	6·10	5·54	34·38	4·66	7·88	41·44	188
27034 .....	8·65	5·22	37·88	1·83	7·72	38·70	194
29598 .....	7·75	5·20	31·94	2·65	6·68	45·78	179
29662 .....	5·55	4·66	39·19	5·17	18·44	26·99	194
31457 .....	7·55	5·26	35·00	2·60	12·04	37·46	183
31175 .....	7·75	4·92	35·70	1·73	7·28	42·62	189
31184 .....	7·60	4·96	36·56	2·04	11·64	37·20	188
31532 .....	2·62	3·48	24·06	9·62	9·08	51·14	167
31533 .....	7·05	5·40	35·87	5·47	5·96	40·25	194
31536 .....	6·80	5·18	33·94	5·84	6·20	42·04	189
32178 .....	6·80	5·64	36·22	4·88	9·80	36·66	192
32488 .....	6·85	5·30	38·75	5·71	6·04	37·35	203
32491 .....	6·25	5·40	35·71	5·87	5·12	41·65	197
33361 .....	7·15	5·50	36·38	1·65	9·52	29·80	188
33363 .....	3·50	3·28	23·37	24·14	7·04	38·67	180
33364 .....	3·15	3·88	26·06	14·57	5·60	46·74	180
33368 .....	4·68	1·80	21·50	9·87	7·50	54·68	163
34107 .....	7·75	5·30	35·63	6·45	6·28	38·59	194
34805 .....	6·95	5·92	35·81	5·53	9·28	36·51	190
34809 .....	6·00	5·42	32·38	6·04	9·36	40·80	182
34112 .....	5·80	5·40	32·75	5·40	9·88	40·77	182
34113 .....	7·25	5·06	29·75	3·47	11·54	42·93	168
35014 .....	4·00	3·82	23·63	15·12	6·76	46·67	172
35015 .....	4·00	6·04	24·06	11·08	7·88	46·94	165
Means.	6·12	4·91	31·23	6·89	8·31	46·17	185

\* For explanation of the relative value see page 8,



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TABLE VII.—CONCENTRATED COMMERCIAL FEEDING STUFFS.

## MISCELLANEOUS

No. of Sample.	Name.	Moisture.		Proteids.	Fat.	Fibre.	Carbohydrates, &c. (Difference)	Relative value.	Remarks.
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
26344	Bird Seed.....	.....	.....	.....	.....	.....	.....	...	Whole seed, not analysed
26345	"	.....	.....	.....	.....	.....	.....		"
26346	"	.....	.....	.....	.....	.....	.....		"
27906	Victor Brand..	6.80	3.40	7.50	5.52	12.92	63.88	105	Compare with Table V. See also Nos. 27121 and 2846 of Bulletin 116.
30440	Bibby's.	6.20	5.38	14.25	6.16	5.04	62.97	132	} Compare with Table V. See also No. 28469 of Bulletin 116.
33362	"	6.20	5.46	14.25	7.08	7.16	59.85	131	
30459	Twin City.	7.50	7.82	18.09	1.41	3.41	61.74	137	Compare with Table V.
31179	Molac	5.25	5.28	15.38	5.23	7.48	61.38	133	} Very unequal values in these two samples.
31182	"	7.20	6.20	9.44	3.36	11.28	62.52	107	
33367	Calf Meal.....	7.64	4.58	26.25	2.21	4.50	54.82	164	
35018	National Stock Food	6.80	6.32	11.81	3.04	9.60	62.43	116	
27901	Anglo-Saxon.....	6.65	11.76	14.00	9.63	13.00	44.96	120	Contains 5.24 per cent common salt.
30447	Herbageum .....	7.30	16.50	23.00	5.82	8.48	38.90	144	Contains 13.12 per cent common salt.
34106	"	6.70	15.26	22.31	6.22	7.80	41.71	143	Contains 10.15 per cent common salt.
27902	"	6.75	13.30	22.50	6.41	6.78	44.26	147	Contains 10.60 per cent of common salt. Is rather a condition powder than a regular feed. Other "Herbageum" products are Nos. 24136, 24788, 29201 of Bulletin 116 and 28052 of Bulletin 117.
25671	Carnafac .....	6.90	9.20	17.50	6.38	52.76	7.26	90	Of little food value; a condition powder. Other carnafac products are Nos. 28535 and 25710 of Bulletin 116, and 24792 and 28479 of Bulletin 117.
30453	Hessa. ....	6.25	32.84	10.94	4.47	8.60	36.90	90	Contains about 25 per cent of common salt. Is rather a condition powder than a food. Other samples of Hess products are Nos. 28471 and 25715 of Bulletin 116.
30454	Pratt's ....	6.00	10.50	15.31	4.80	6.72	56.67	128	Contains 7.24 per cent common salt. Is a condition powder rather than a food. For other Pratt products, see Bulletin 116, No. 28459 and Bulletin 117, Nos. 26857 and 28473.
31183	Molasenit. ....	10.30	20.40	4.90	2.50	6.56	55.34	80	Contains 4.48 per cent of common salt. Is of little value as a food, but may have medicinal properties.



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TABLE VII. CONCENTRATED COMMERCIAL FEEDING STUFFS—*Con.*

MISCELLANEOUS—*Concluded.*

No. of Sample.	Name.	Moisture	Ash.	Proteids.	Fat.	Fibre.	Carbohydrates, &c. (difference)	Relative value.	Remarks.
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
33356	Dietetic .....	7.95	14.68	19.88	1.61	5.72	50.14	133	Contains 7.19 per cent of common salt.
34105	International ..	6.70	14.74	12.44	3.38	8.16	54.58	111	Contains about 14 per cent of common salt. For other International products, see Nos. 27114, 24121, 29055, 26068, 26856, 28470, 28571, 25711 and 28042 of Bulletin 116; also Nos. 28480 and 28482 of Bulletin 117.
34108	Canada Stock Food..	7.20	11.40	16.13	7.12	9.04	49.11	128	Contains 6.92 per cent of common salt.
35013	Herb Food .....	6.50	13.06	19.06	4.10	8.72	48.56	133	" "
35016	Meat Meal ....	4.80	27.48	48.44	7.88	8.44	2.96	212	Contains 12.06 per cent of common salt.



APPENDIX G.

BULLETIN No. 157—MAPLE PRODUCTS.

OTTAWA, July 9, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon a collection of Maple Products made in May and June of this year, and consisting of 71 samples of Maple Syrup and 71 samples of Maple Sugar.  
These results are summarized in the following tables :—

MAPLE SUGAR.

Inspectoral District.	Declared Com- pound.	Genuine.	Adulterated.	Deceptive.	Total.
Nova Scotia.....	-	5	-	-	5
Prince Edward Island.....	-	5	-	-	5
New Brunswick.....	-	5	-	-	5
Quebec.....	-	5	-	-	5
St. Hyacinthe.....	-	6	-	-	6
Montreal.....	-	4	1	-	5
Ottawa.....	-	4	1	-	5
Kingston.....	-	3	2	-	5
Toronto.....	-	2	2	-	4
London.....	-	2	-	-	2
Windsor.....	-	5	1	-	6
Manitoba.....	-	1	-	1	2
Calgary.....	-	-	-	-	-
Vancouver.....	-	5	-	-	5
Victoria.....	-	3	1	-	4
		62	8	1	71



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MAPLE SYRUP.

Inspectoral District.	Declared Com- pound.	Genuine.	Adulter- ated.	Doubtful.	Total.
Nova Scotia .....	-	5	-	-	5
Prince Edward Island .....	-	5	-	-	5
New Brunswick .....	-	5	-	-	5
Quebec .....	-	5	-	-	5
St. Hyacinthe .....	-	5	-	-	5
Montreal .....	-	4	1	-	5
Ottawa .....	-	4	1	-	5
Kingston .....	1	4	-	-	5
Toronto .....	-	4	1	-	5
London .....	1	4	-	-	5
Windsor .....	-	6	-	-	6
Manitoba .....	1	3	1	-	5
Calgary .....	-	-	-	-	-
Vancouver .....	-	4	1	-	5
Victoria .....	-	4	1	-	5
	3	62	6		71

The following synopsis of work done since 1905 upon Maple Products, is of interest :—

MAPLE SUGAR.

Date of Inspection.	Bulletin.	Sold as Mixture.	Genuine.	Doubtful.	Adulter- ated.	Total.	Percent- age Genuine.
March, 1905 .....	102	0	12	2	8	22	55
May, 1905 .....	102	0	15	0	3	18	83
March, 1906 .....	120	0	11	3	12	26	42
May, 1906 .....	120	1	44	0	7	52	85
May, 1907 .....	140	5	185	10	57	257	72
May, 1908 .....	157	0	62	1	8	71	87
						446	

MAPLE SYRUP.

Date of Inspection.	Bulletin.	Sold as Mixture.	Genuine.	Doubtful.	Adulter- ated.	Total.	Percent- age Genuine.
March, 1905 .....	102	0	17	4	76	97	18
May, 1905 .....	102	0	44	2	29	75	59
March, 1906 .....	120	8	22	2	53	85	26
May, 1906 .....	120	9	88	17	57	171	52
May, 1907 .....	141	37	187	2	20	244	77
May, 1908 .....	155	6	61	4	13	84	73
May, 1908 .....	157	3	62	0	6	71	87
						827	



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It thus appears that this laboratory has examined 1,273 samples of Maple Sugar and Maple Syrup, during the last three years, these samples representing the articles as occurring in regular trade. In addition to the above, a considerable number of samples have been received for analysis under the departmental regulations which provide that any manufacturer, importer, retailer or purchaser may obtain analysis on payment of a fee of five dollars.

A noteworthy increase in the percentage of genuine samples is observable ; and this is especially marked in the case of Maple Syrup.

Besides the regular collections herein reported, a special collection of 14 samples maple sugar and 12 samples of syrup was made on the 14th April, on the market at Joliette. All the sugars were found genuine, and 11 of the syrup samples were undoubtedly genuine. One sample of syrup gives analytical results of a kind to raise suspicion as to its genuineness, but not sufficiently positive to prove adulteration.

On the 2nd May, 4 samples of sugar and 5 samples of syrup were specially collected at the market, Actonvale. All of them proved to be genuine.

I beg to recommend the publication of this report as Bulletin No. 157.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



INSPECTION OF MAPLE PRODUCTS—BULLETIN No. 157.

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Percentage on Dry Substance.	Lead Sub-acetate. precipitate.	Total ash.	Malic acid value.	
1908												

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

May 12	Maple Syrup.	33635	W. Chas. Anderson, Halifax, N.S.	40	Maple Tree Producers, Labelled Pride of Canada Waterloo, Que.	40	Maple Tree Producers, Labelled Pride of Canada Waterloo, Que.	3.69				Genuine.
" 14	"	33636	J. J. Skerry, Halifax, N.-E.	30	Eastern Townships Maple Sample drawn from Syrup and Sugar Exchange, Sutton, Que.	30	Eastern Townships Maple Sample drawn from Syrup and Sugar Exchange, Sutton, Que.	3.10				"
" 15	"	33637	E. M. Walker, Dartmouth, N.S.	30	M. T. Boss, Rodney, N.S.	30	M. T. Boss, Rodney, N.S.	3.53				"
" 19	"	33638	J. H. Bairs, Wolfville, N.S.	20	D. R. Gilbert, Gilbert's Mountain, N.S.	20	D. R. Gilbert, Gilbert's Mountain, N.S.	3.23				"
" 21	"	33639	A. F. Ross & Co., Truro, N.S.	39	Maple Tree Producers, Waterloo, Que.	39	Maple Tree Producers, Waterloo, Que.	2.67				"

DISTRICT OF PRINCE EDWARD ISLAND—THEO. MOORE, INSPECTOR.

May 14	Maple Syrup.	31241	Mrs W. F. Carter, Charlotte town.	60	E. McKenzie, Springhill, N.S.	60	E. McKenzie, Springhill, N.S.	4.13				Genuine.
" 18	"	31242	E. J. DesRoche, Charlotte town.	60	T. T. McKinnon, Charlotte town.	60	T. T. McKinnon, Charlotte town.	5.53				"



"	26	31243	T. Chung, Summerside	3	"	60	A. W. Westover, Sutton Junction, Que.	4 92	"
"	28	31244	M. Tene, Charlottetown	3	"	50	Unknown	3 04	"
"	28	31245	W. S. Brown, Charlotte town.	3	"	50	Robt Mitchell, Lennox ville, Que.	3 23	"

DISTRICT OF NEW BRUNSWICK J. C. FERGUSON, INSPECTOR.

May	13	Maple Syrup	29667	Abner Hatfield, Stall L., City Market, St. John, N. B.	1	65	Win B. Parent, Upper Queensbury, York Co., N. B.	3 63	Genuine.
"	20	"	29668	The Sussex Mercantile Co., Ltd., Main St., Sussex, Kings Co., N. B.	2	60	Richard Scott, King's Co., Hammond, N. B.	4 61	"
"	23	"	29670	Mine S. A. Demers, Public Square, Newcastle, N. B.	3	25	The McCormick Mfg Co., London, Ont.	3 90	"
June	5	"	29671	C. H. Burt, 332 Queen St., Fredericton, N. B.	2	60	Willard Clark, Lower Lane, Queensbury, York Co., N. B.	3 90	"
"	5	"	29722	John McKnight, Corner Regent and King Sts., Fredericton, N. B.	2	50	William Mooers, Bear Island, York Co., N. B.	1 98	"

DISTRICT OF QUEBEC E. BELAND, INSPECTOR.

May	11	Maple Syrup	26412	Roger Germain, Portneuf.	1	13	Roger Germain, Portneuf.	4 61	Genuine.
"	14	"	26448	Adolphe Thibadeau, Saint Basile.	14	32	Adolphe Thibadeau, Saint Basile.	3 81	"
"	15	"	26455	J. T. Marcotte, Saint Basile.	5	45	Ferdinand Gauthier, Saint Basile.	3 13	"



INSPECTION OF MAPLE PRODUCTS—BULLETIN No. 157.

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Lead Sub-acetate precipitate.	Total a.s.h.	Percentage on Dry Substances.	Malic acid value.	
1908												
DISTRICT OF QUEBEC—E. BELAND, INSPECTOR—Con.												
May 15	Maple Syrup.	26460	Daniel Papillon, St-Basile.	3 pts.	60	Daniel Papillon, St-Basile.	.....	3 47	.....	.....	Genuine.	
" 26	"	26469	Michel Marcoux, St-Elzéar, Beauce.	1 qt.	35	Michel Marcoux, St-Elzéar, Beauce.	.....	3 29	.....	..	"	
DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.												
May 13	Maple Syrup.	488	O. Lambert, Iberville.	1 gall.	90	Not known	Not labelled. Last production of 1907 syrup.	5 07	.....	.....	Genuine.	
" 13	"	489	Oliva Lafaille, Saint-Jean.	1 qt.	20	"	From a 4 gallon vessel, not labelled.	3 67	.....	.....	"	
" 14	"	490	H. Paré, Granby.	1 "	—	B. Lavigne, Granby.	From a 1 gallon can, not labelled.	3 47	.....	.....	"	
" 18	"	491	J. Bédard & fils, Richmond.	1 "	30	J. E. Healy, Richmond.	Labelled "Pure Maple Syrup, made and put up by Julius E. Healy, Richmond, Que. Not guaranteed if seal is broken. Does not appear to have been sealed at all.	3 56	.....	.....	"	
" 22	"	492	P. Racine, St-Hyacinthe.	1 "	25	Not known	.....	6 00	.....	.....	"	



DISTRICT OF MONTREAL.—J. J. COSTIGAN, INSPECTOR.

May	12	Maple Syrup	3200 L. S. S. & Co. Inc. Ltd., Parliament St., Montreal	2, A. & S. Co., Que.	Silver Leaf Brand, Pure Maple Syrup, Sample taken from packed stock at factory. We guarantee Silver Leaf Brand Maple Syrup to be absolutely pure.	0.73	0.210	18. Adulterated.
"	13	"	3200 L. S. S. & Co. Inc. Ltd., Parliament St., Montreal	6 C. M. Co., Que.	Silver Leaf Brand, Pure Maple Syrup, Sample taken from packed stock at factory. We guarantee Silver Leaf Brand Maple Syrup to be absolutely pure.	0.73	0.210	Genuine.
"	13	"	3200 L. S. S. & Co. Inc. Ltd., Parliament St., Montreal	6 C. M. Co., Que.	Silver Leaf Brand, Pure Maple Syrup, Sample taken from packed stock at factory. We guarantee Silver Leaf Brand Maple Syrup to be absolutely pure.	0.73	0.210	"
"	19	"	3200 L. S. S. & Co. Inc. Ltd., Parliament St., Montreal	6 C. M. Co., Que.	Silver Leaf Brand, Pure Maple Syrup, Sample taken from packed stock at factory. We guarantee Silver Leaf Brand Maple Syrup to be absolutely pure.	0.73	0.210	"
"	12	"	3200 L. S. S. & Co. Inc. Ltd., Parliament St., Montreal	6 C. M. Co., Que.	Silver Leaf Brand, Pure Maple Syrup, Sample taken from packed stock at factory. We guarantee Silver Leaf Brand Maple Syrup to be absolutely pure.	0.73	0.210	"

COLLEGE OF THE SOUTHERN CROSS

[illegible]

THE UNIVERSITY OF CHICAGO

[illegible]



INSPECTION OF MAPLE PRODUCTS—BULLETIN No. 157.

Date of Collection.	Nature of Sample.	Number of Samples.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.	
				Quantity.	Cents.		Lead sub-precipitate.	Percentage on Dry Substance.	Total ash.	Malic acid value.		
												p.c.
DISTRICT OF KINGSTON—J. H. HOGAN, INSPECTOR Con.												
May 9	Maple Syrup.	35203	Geo. Richardson, 406 John-ston St., Kingston.	1 pt.	25	George Weber, Ardoch, Ont	Taken from tin on King-ston Market, labelled guaranteed absolutely pure.	3.44	.....	.....	Genuine.	
" 9	"	35204	C. W. Horning, Kingston	1 "	25	C. W. Horning, Kepler, Ont.	Taken from a tin on Kingston market.	3.78	.....	.....	"	
" 12	"	35210	John Sloan, Belleville.	3 "	75	John Sloan, Belleville.	.....	.....	.....	.....	Sold as mixture.	
DISTRICT OF TORONTO H. J. DAGGER, INSPECTOR.												
May 22	Maple Syrup.	35104	Arthur Davis, 234 King St. W., Hamilton.	1 pt.	35	Eastern Townships Maple Syrup and Sugar Exchange, Sutton, Que.	Sample from wooden keg labelled, Guaranteed Absolutely Pure Maple Syrup.	4.40	.....	.....	Genuine.	
" 22	"	35105	Bessey & Falconbridge, 43-44 Market Hall, Hamilton.	1 "	35	Rutherford & Marshall, Toronto.	Sample sold as pure maple-syrup. Labelled Maple Syrup.	0.16	0.10	0.06	Adulterated.	
" 22	"	35106	A. L. Berry, 329 King St E., Hamilton.	1 "	35	Eastern Townships Maple Syrup and Sugar Exchange, Sutton, Que.	Sample taken from a 5 gall. can labelled Finest Eastern Townships Maple Syrup. Guaranteed Pure.	2.76	.....	.....	Genuine.	



"	26	35107	W. C. Miller, 624 Young St., Toronto.	20 White & Co., fruit dealers, Toronto.	Sold as pure maple syrup. Sample taken from keg marked White & Co.	2.92	"
"	27	35108	John Coult, 287 St. E., Toronto.	35 J. Gibson, 52 Walker Ave., Toronto.	Sample from 5 gall. can. Vendor said it was pure maple syrup.	3.78	"

DISTRICT OF LONDON T. KIDD, INSPECTOR.

May	12	Maple Syrup.	30494	J. J. M. Ewing, Goderich. 1 1/2 pt.	25 Imperial Syrup Co., Montreal.		Sold as mixture.
"	12	"	30498	Sturday & Co., Goderich. 1 1/2 "	50 Maple Tree Producers Association, Waterloo, Que.	3.75	Genuine.
"	14	"	30903	W. H. Graham, St-Mary's. 1 qt.	50 Frederick Ployart, LaSalle, Que.	2.60	"
"	16	"	30909	Matthew Williams, Seaforth. 1 "	30 David McConnell, Crofton, Ont.	3.38	"
"	18	"	30914	Michael Keoghauer, Seaforth. 1 1/2 "	30 George A. Rock, Herbert Township, Ont.	4.33	"

DISTRICT OF WINDSOR J. TALBOT, INSPECTOR.

May	14	Maple Syrup.	34531	R. Wanless & Co., Sarnia. 1 qt.	50 Garnett Safford, Sarnia. Taken from large can in store. Labelled Pure Maple Syrup.	3.69	Genuine.
"	14	"	34532	W. C. Palmer, Sarnia. 1 "	40 Wm Marshall, farmer, near Arkona. Taken from barrel not labelled.	2.76	"
"	14	"	34534	S. E. Cornell, Sarnia. 3 pts.	50 E. Kearney, Watford. Farmer. Not labelled.	3.53	"
"	15	"	34545	J. T. Guttwach, Berlin. 1 qt.	J. T. Guttwach, Berlin.	4.00	"
"	18	"	34546	Dunke & Co., Berlin. 1 "	50 G. B. Hall, Barnston, Que. Warranted by G. B. Hall, to be pure within the meaning of the Adult-eration Act.	3.53	"
"	19	"	34550	A. Beattie & Co., Stratford. 1 "	40 E. E. Hammer, Norwich. Not labelled.	3.07	"

DISTRICT OF WINNIPEG—A. C. LARIVIERE, INSPECTOR.

May	13	Maple Syrup.	35103	D. A. Rathe, Gimou. 1 qt.	40 Maple Tree Producers Association, Ltd., Waterloo, Canada. Trade mark.	4.52	Genuine.
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INSPECTION OF MAPLE PRODUCTS—BULLETIN No. 157.

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS				Remarks and opinions of the Chief Analyst.
				Quantity.	Cents.			p. c.	p. c.	p. c.	Malic acid value.	
1908												
DISTRICT OF WINNIPEG—A. C. LARIVIERE, INSPECTOR (Con.												
May 13	Maple Syrup.	33104	J. A. Park, Grocer, Winni-peg.	7 lbs.	1 15	W. M. Farnam, Farnam's Corners, Qué.	Label, "Pure"	2.57	.....	.....	Genuine.	
" 14	"	33105	Teifer Bros., manufactur-ers, Winnipeg.	1 qt.	35	Canada Maple Exchange, Montreal.	Trade mark, "Small's Maple Leaf Brand."	2.86	.....	.....	"	
" 14	"	33106	Robinson & Co., grocers, Winnipeg.	1 "	35	Maple Syrup Sugars, Ltd., Montreal.	Trade mark, "Pure Sap, Canadian"	0.39	0.18	0.02	Adulterated.	
" 14	"	33107	T. J. Davis, grocer, Winnipeg.	3 pts.	45	Mrs., Maple Syrup Sugars, Ltd., Montreal; furnish-ers, Rodgers & Co., Win-nipeg.	"Diamond Brand, Pure Sap, Canadian."	.....	.....	.....	Sold as mixture.	
DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.												
May 12	Pure Maple Syrup.	34250	J. F. May, Pender St., Vancouver, B. C.	1 gal	80	E. C. Lynch, Granby, Que.	.....	1.24	0.43	0.35	Adulterated.	
" 12	"	34251	H. J. Hampton, Granville St., Vancouver, B.C.	1 qt.	60	Eastern Townships' Maple Sugar and Syrup Ex-change.	.....	2.75	.....	.....	Genuine.	
" 12	"	34252	J. S. Foran, Carrall St., Vancouver, B.C.	"	60	D. McDougall, Martin-town, Ont.	.....	5.00	.....	.....	"	
" 12	"	34253	F. Fillion, Vancouver, B.C.	1 gal.	85	Quelette, St-Hermas, Que.	.....	2.55	.....	.....	"	
" 13	"	34254	F. Wright, Granville St., Vancouver, B.C.	3 pts.	60	G. Blair, Franklin Centre, Que.	.....	3.16	.....	.....	"	



DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR.

June 17	Maple Syrup.	31886	Windsor Grocery Co., Victoria, B.C.	1 qt.	64 Dingle & Stewart, Winnipeg, Man.	Marked "Silver Leaf Brand," Pine Maple Syrup.	1 14	0 35 0 21	Adulterated.
" 17	"	31887	Windsor Grocery Co., Ltd., Victoria, B.C.	"	60 Maple Tree Producers Association, Que.	The Trade of Canada Maple Syrup, guaranteed absolutely pure.	4 27		Genuine.
" 17	"	31888	Saunders Grocery Co., Ltd., Victoria, B.C.	"	50 Eastern Townships Maple Syrup and Sugar Exchange, Stouffville, Que.	Finest Eastern Townships Maple Syrup, guaranteed pure.	3 04		"
" 19	"	31889	W. Speed, Victoria, B.C.	"	50 Canada Maple Exchange, Montreal.	Usually Maple Brand.	3 04		"
" 19	"	31898	Dixon H. Ross & Co., Victoria, B.C.	"	60 W. R. Hauser, Granby, Que.		2 57		

DISTRICT OF NOVA SCOTIA—J. WATUCH, INSPECTOR.

May 12	Maple Syrup.	33640	W. J. Hopedale, Halifax, N.S.	1 lb	20 E. A. Smith, Sydney, N.S.	Sample taken from a block of 3 or 4 lbs.	3 26		Genuine.
" 12	"	33641	Lander Haddy & Co., Halifax, N.S.	1 "	20 J. F. Harrison, Sydney, N.S.	Sample taken in a block.	5 08		"
" 12	"	33642	Morris Limited, Halifax, N.S.	1 "	20 " " " "	Mr. Wm. Mac stated that they did not sell maple sugar retail. Used only for manufacturing and flavouring purposes.	4 75		"
" 20	"	33643	J. W. Badger & Son, Windsor, N.S.	1 "	20 D. R. Gilbert, Gilbert Mountain, N.S.	Sample put up in 1 1/2 lb. block.	2 56		"
" 21	"	33644	J. W. Snook, Truro, N.S.	1 "	15 Rowell, Son & Co., Sherbrooke, Que.	Put up in 1 lb. block and sold as pure.	3 26		"

DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.

May 14	Maple Syrup.	31236	W. P. Carter, Charlottetown	1 lb	24 E. McKenzie, Springhill, N.S.		2 60		Genuine.
" 19	"	31237	W. D. Currie, Seaside	1 "	20 F. T. Thomas, Quebec.		5 42		"
" 19	"	31238	Thomas Kichhaug, Seaside, West	1 "	20 " " " "		3 80		"
" 23	"	31239	J. P. Duffy, Charlottetown	1 "	18 Carvell Bros., Charlottetown.		2 84		"
" 62	"	31240	T. Chung, Summerside	1 "	30 W. H. Elzett, Montreal.	This sample, Mr. Chung says, is more of a maple cream quality.	3 29		"



INSPECTION OF MAPLE PRODUCTS—BULLETIN No. 157.

Date of Collection.	Nature of Sample.	Number of Samples.	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and opinions of the Chief Analyst.
								Lead sub-precipitate.	Percentage on Dry substance.	Total ash.	Malic acid value.	
DISTRICT OF NEW BRUNSWICK J. C. FERGUSON, INSPECTOR.												
May 13	Maple Sugar.	29672	McPherson Bros., Union St., St. John, N.B.	181 1 lb.		20 Wilfrid Fenwick, City Market, St. John, N.B.	Furnished to Fenwick from Goddard Bros., Albert Co., N.B.	3.51				Genuine.
" 20	"	29673	D. A. Vail, Broad St., Sussex, Kings Co., N.B.	"		20 Goddard Bros., Elgin, Albert Co., N.B.	Evaporated.	3.06				"
" 21	"	29674	George O. Stratton, Main St., Moncton, N.B.	"		32 J. H. Harris & Co., Moncton, Westmoreland Co., N.B.		2.82				"
" 27	"	29675	Moore Brothers, Roseberry St., Campbellton, N.B.	"		20 George W. Smith, Elgin, Albert Co., N.B.	1 lb. bar evaporated.	2.53				"
June 5	"	29676	James A. Bell, 313 Queen St., Fredericton, N.B.	"		20 Whinant Cliff, Queensbury & York Co., N.B.	Could not procure sugar in large block. Vendor stated these bars were from one boiling, panning and sugaring of sap and were uniform in quality.	4.19				"
DISTRICT OF QUEBEC—E. BELAND, INSPECTOR.												
May 11	Maple Sugar.	26409	G. Forde & Co., Portneuf	2½ lb.		23 N. Marcotte, Portneuf		4.94				Genuine.
" 11	"	26411	Roger Germain, Portneuf	1½ "		12 Roger Germain, Portneuf		5.56				"
" 12	"	26415	Emile Frenette, Portneuf	"		Emile Frenette, cultivateur, Portneuf.		4.00				"



## SESSIONAL PAPER No. 14

"	12.	26416 Joseph Marotte, Portneuf 3 lbs.	30 Arthur Prouette, Portneuf.	2 36	"
"	12	26419 Joseph Leves, Portneuf. 2 lbs. & 1 1/2 oz	23 Narcisse Marotte, Portneuf.	1 71	"

ROBERTSON, WILLIAM, 1835-1904

May	11	Maple Sugar.	194 L. H. Paquet, Soud.	1 lb.	10 Not known.	5.71	Genune.
"	12	"	495 Nap. Quantin, Barryville.	2 lbs.	20 % C. Quantin, Barryville.	5.80	"
"	13	"	496 Chas. Boncher & Co., Soud.	2 "	20 M. M. Quantin, Barryville.	5.80	"
"	15	"	497 A. J. Hodon, Richmond.	1 "	20 M. M. Quantin, Barryville.	5.44	"
"	22	"	498 J. B. St. Pierre, Soud.	1 "	11 M. M. Quantin, Barryville.	4.60	"
"	22	"	499 R. O. Boncher, Soud.	2 lbs.	20 % C. Quantin, Barryville.	4.64	"

# REPORT OF MONTEAL, J. COMPANY, INCORPORATED

May 12	Maple Sugar.	32007 Sugars and Cannors, Ltd., Parthenias St., Montreal.	20 Verillon, Montreal.	Even Black Brand, Manufactured from Canadian maple sugar placed in cups, box of 24 for ship board.	0 82	0 30 0 23	Adulterated.
" 13	"	32008 Chem, Landers & Co., 241, St. Paul St., Montreal.	10 Patrick, Reichen, St. J., Leban, Que.	3 11	"	"	Genuine.
" 14	"	32009 J. A. N. Bonassar, Valley field, Que.	10 J. G. H. H. H., H. H. H., H. H. H., Que.	4 89	"	"	"
" 15	"	32010 W. C. H. H. H., St. Andrew de Mont, Que.	14 Maple Tree, H. H. H., H. H. H., H. H. H., H. H. H.	4 17	"	"	"
" 21	"	32011 R. H. H. H. H. H. H. H. H. H. Montreal.	20 H. H. H. H. H. H. H. H. H. H. H. H., H. H. H., H. H. H.	2 84	"	"	"



INSPECTION OF MAPLE PRODUCTS—BULLETIN No. 157.

Date of Collection	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.					Remarks and Opinion of the Chief Analyst.					
						Cost.	Quantity.	(Cents.)	Percentage on Dry Substances.	Total ash.		Malic acid value.				
													Lead sub-acetate precipitate.	p. c.	p. c.	p. c.

DISTRICT OF OTTAWA J. A. RICEY, INSPECTOR.

May 14	Maple Sugar.	34149	L. Malette, cor. Dalhousie St. and Murray Sts., Ottawa, Ont.	1 lb.		10 Sugars Limited, Montreal.	Sample from box marked "40 Twin Blocks Pure Maple Sugar. Twin Blocks Maple Sugar is guaranteed to be Pure Maple and nothing else sold as pure Maple Sugar.	2.49				Genuine.
" 15	"	34150	J. Bambrick, By-Ward Market, Ottawa, Ont.	1 "		10 W. N. Farnam, Farnam's Corners, Que.	Sold as Pure Maple Sugar.	3.64				"
" 16	"	34151	W. T. Ackland, cor. Bank and Lisgar Sts., Ottawa.	1 "		15 Not known.	Sold as Pure Maple Sugar.	4.08				"
" 18	"	34152	J. G. Whyte & Son, Rideau Sts., Ottawa, Ont.	60 lb.		10 Sugars Limited, Montreal.	Sample from box marked "40 twin blocks Pure Maple Sugar. Twin Blocks Maple Sugar is Pure Maple and nothing else." Sold as Pure Maple Sugar.	0.28	0.18	0.14		Adulterated.
" 26	"	34153	Casselman Bros., Burg, Ont.	1 "		20 W. B. Newsom, Hollow, Ont.	Phun-Sold as Maple Sugar	5.37				Genuine.



## SESSIONAL PAPER No. 14

## DISTRICT OF KINGSTON—J. HOGAN, INSPECTOR.

May 11	Maple Sugar.	35205	Wm Davies & Co., Princess St., Kingston.	Prin 1 lb	10 Maple Tree Co., Waterloo, Que.	4 66	...	...	Genuine.
" 11	"	35206	Wm Davies & Co., Princess St., Kingston.	Prin-1 "	10 Parkhill, Kingston.	7 33	...	...	"
" 11	"	35207	J. Kelley, Princess St., Kingston.	St., 1 "	20 Sugars Ltd., Montreal.	0 90	0 36 0 25	Adulterated.	
" 11	"	35208	W. H. Carnovsky, Brook St., Kingston.	Brook 1 "	10 Sugars and Cannery, Montreal.	0 90	0 27 0 19	"	
" 11	"	35209	James Redden, Princess St., Kingston.	Princess 1 "	18 George Young, Kingston.	3 57	...	...	Genuine.

## DISTRICT OF TORONTO—H. J. DAGGER, INSPECTOR.

May 11	Maple Sugar.	35109	J. W. Boyle, Dundas St., Toronto.	1 lb	10 Beauce Maple Sugar Imperial Syrup Co., Montreal.	2 47	...	...	Genuine.
" 22	"	35110	K. Fraser, 323 King St. East, Hamilton.	St. 1 lb	10 Sugars & Cannery Ltd., Montreal.	0 55	0 17 0 21	Adulterated.	
" 26	"	35111	J. Duggan, 455 457 Young St., Toronto.	Young 1 lb	20 McWilliams & Everett, Com. Fruit Dealers, Toronto.	1 15	0 26 0 13	"	
" 26	"	35112	J. E. Legge, 817 College St., Toronto.	College 1 "	10 F. W. Humphrey, Wholesale Grocers, Toronto.	3 91	...	...	Genuine.
" 27	"	35113	Patterson Bros., East Toronto.	East Tor 1 "	20 Maple Tree Producers Assoc., Ltd., Waterloo, Que.	4 67	...	...	"

## DISTRICT OF LONDON—T. KIDD, INSPECTOR.

May 12	Maple Sugar.	30900	McEwing Bros., Goderich.	2 lb	20 Warren Bros & Co., Toronto.	3 53	...	...	Genuine.
" 14	"	30901	J. M. Adam, St. Mary's.	1 "	20 Imperial Syrup Co., Montreal.	3 64	...	...	"
" 16	"	30902	Chas Andrews, Seaforth.	1 "	20 George Watts & Sons, Brantford.	4 49	...	...	"
" 27	"	30930	Mrs Grisdale, Wingham.	1 "	10 James Turner & Co., Hamilton.	2 82	...	...	"
June 30	"	30938	Geo. McLennan, Clinton, Ont.	1 "	15 Maple Tree Producers Assoc., Waterloo, Que.	6 71	...	...	"



INSPECTION OF MAPLE PRODUCTS BULLETIN No. 157.

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of vendor.		Cost.		Name and Address of Manufacturer or Furnisher as given by the vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
			Quantity.	Cents.	Percentage on Dry Substance.	Lead sub-acetate precipitate.			Total ash.	Malic acid value.			
									p. c.	p. c.	p. c.		
1908													

DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR.

May 14	Maple Sugar.	34530	Swafford & Co., Sarnia.	2 lbs.	30	Imperial Syrup Co., Montreal.	Not labelled.	4.22	.....	.....	Genuine.
" 14	"	34533	W. C. Palmer, Sarnia.	1 lb.	18	P. Sitter, Arkona.	"	3.95	.....	.....	"
" 15	"	34537	Geo. Primmer, Petrolia.	3 blks.	30	Sugars & Cannery Co., Montreal.	Furnished by M. Massett & Co., London, and guaranteed to be pure.	0.30	0.20	0.16	Adulterated.
" 15	"	34538	C. R. Polley, Petrolia.	3 "	30	Imperial Syrup Co., Montreal.	Label on case marked absolutely pure.	3.44	.....	.....	Genuine.
" 19	"	34549	A. Beattie & Co., Stratford.	1½ lbs.	23	Maple Tree Producers Assoc., Waterloo, Que.	Not labelled.	3.64	.....	.....	"
" 19	"	34552	M. H. Killoran, Stratford.	1 lb.	20	Not known.	"	5.19	.....	.....	"

DISTRICT OF MANITOBA—A.-C. LARIVIERE, INSPECTOR.

May 13	Maple Sugar.	33108	Hoffman & Son, grocers, Winnipeg.	1 lb.	25	Maple Tree Producers Assoc., Ltd., Waterloo, Que.	.....	4.71	.....	.....	Genuine.
" 14	"	33109	Robinson & Co., grocers, Winnipeg.	1 "	25	Imperial Syrup Co., Montreal, Que.	.....	1.95	0.55	0.30	Doubtful.
" 14	"	33110	J. Paterson, grocer, Winnipeg.	1 "	25	Not given.	.....	5.01	.....	.....	Genuine.



"	14	Maple Sugar.	33111	Laurie Brothers, Grocers, 1 lb Winnipeg.	20	Maple Tree Producers Assoc., Ltd., Waterloo, Que.	4 69	Genuine.
"	15	"	33112	J. D. Scott, Grocer, Win 1 lb nipeg.	15	T. W. Taylor, Cockshire, Que.	4 13	"

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

May	13	Pure Maple Sugar.	34255	F. J. Islander, Pender St., 1 lb Vancouver.	25	Maple Tree Producers As- sociation, Ltd., Waterloo, Que.	3 97	Genuine.
"	13	"	34256	J. F. May, 800 Pender St., 1 lb Vancouver.	20	E. C. Lynch, Granby, Que.	3 42	"
"	13	"	34257	J. S. Foran, Carroll St., 1 lb Vancouver.	20	D. McDougall, Martin Town, Que.	6 22	"
"	13	"	34258	F. Wright, Granville St., 1 lb Vancouver.	20	G. Blair, Franklin Centre, Que.	3 00	"
"	18	"	34259	S. Marcus, Cordova St., 1 lb Vancouver.	15	Imperial Syrup Co., Mont- real.	4 48	"
Furnished by Ramsay Bros. & Co., Van- couver.								

DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR.

June	19	Maple Sugar.	34899	Acton Bros., Victoria, B.C., 1 lb	20	Sugars and Cannery, Ltd., Montreal	2 44	Genuine.
"	22	"	34912	F. Carne, Victoria, B.C., 1 lb	25	Canada Maple Exchange, Montreal	3 24	"
"	23	"	34917	Victoria Rochdale Co. oper 1 lb ative Assoc., Victoria, B.C.	20	Sugars and Cannery, Ltd., Montreal	0 71	0 30 0 28 Adulterated.
"	23	"	34918	H. A. Ledy, Victoria, B.C., 1 lb	25	... .. Stated by vendor to be pure; used for manu- facturing purposes only.	6 64	Genuine.







## APPENDIX H.

## BULLETIN No. 158—PARIS GREEN.

OTTAWA, August 3, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR:—I have the honour to hand you a report upon 150 samples of Paris Green, obtained throughout Canada in May of the present year.

With the single exception of No. 34285, purchased in Vancouver, B.C., these samples conform to the Adulteration Act. (Chap. 133, R. S. 1906.)

This article forms the subject of Bulletins 40, 42 and 88, published by this department; and the following table enables a comparison of results to be made:—

Bulletin.	Year.	Samples Examined.	Genuine.	Doubtful.	Adulterated.	Percentage of adul.
40	1895	72	72	5	15	21.0
42	1896	174	151	3	16	9.0
88	1903	160	162	3	4	2.4
158	1908	150	149	0	1	0.7

It is apparent that a great improvement in the quality of Paris Green, as offered for sale in Canada, has taken place during the last 13 years.

I beg to recommend that this report be printed as Bulletin 158.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



BULLETIN No. 158—PARIS GREEN.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULT OF ANALYSIS.			Remarks and opinion of the Chief Analyst.	
				Quantity.	Value.			Cupric oxide.	Arsenious acid.	Solubility in ammonia.		
DISTRICT OF NOVA SCOTIA R. J. WAUGH, INSPECTOR.												
1808.					Cts.				p. c.	p. c.		
May 13	Paris Green.	33665	National Drug and Chemical Co., Halifax, N.S.	1 lb.	32	Blundell, Spence & Co., London, Eng.	Labelled pure, put up in tin box.	32.91	53.78	Complete.		Genuine.
" 13	"	33666	A. M. Bell & Co., Halifax, N.S.	1 "	33	"	Labelled pure, put up in paper box.	32.91	57.25	Very slight residue		"
" 18	"	33667	S. L. Cross, Kentville, N.S.	1 "	30	Canada Paint Co., Montreal, Que.	Put up in round paper box, labelled pure.	31.14	54.64	Complete.		"
" 18	"	33668	B. H. Dodge, Kentville, N.S.	1 "	30	Lewis, Berger & Sons, London, Eng.	Labelled guaranteed pure.	32.91	55.27			"
" 18	"	33669	T. P. Calkin & Co., Kentville, N.S.	1 "	30	Blundell, Spence & Co., London, Eng.	"	32.80	55.69	Very slight residue		"
" 19	"	33670	L. W. Sleep, Wolfville, N.S.	1 "	35	"	"	32.36	55.90	Complete.		"
" 19	"	33671	T. L. Harvey, Wolfville, N.S.	1 "	30.	"	"	32.80	53.21	"		"
" 19	"	33672	R. E. Harris & Son, Wolfville, N.S.	1 "	30	Lewis, Berger & Sons, London, Eng.	"	31.36	51.81	"		"
" 20	"	33673	Dunock & Armstrong, Windsor, N.S.	1 "	35	"	"	32.58	54.57	"		"
" 21	"	33674	Truro Hardware Co., Truro, N.S.	1 "	30	Canadian Paint Co., Montreal, Que.	Labelled, warranted strictly pure.	32.25	54.36	"		"

DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.

May 14	Paris Green.	31246	Fennell & Chandler, Charlottetown.	30	Lewis, Berger & Son, (Guaranteed pure, Government standard.				32.58	55.06	Complete.	Genuine.
" 15	"	31247	Carvel Bros., Charlottetown.	23	Canadian Paint Co., Montreal.		Warranted strictly pure.		32.02	54.71	"	"
" 19	"	31248	T. A. McDonald, Souris.	25	A. Ramsay & Son, Montreal.		Pure Paris green.		32.36	57.36	"	"



SESSIONAL PAPER No. 14

19	"	31249	Sterns Bros., Sons West	1	30	Lewis, Barger & Son, London, Eng.	Guaranteed pure, Gov- ernment standard.	52 36	54 42	"
"	19	31250	Thos. Kiekham, Sons West	1	30	Glasgow Lead and Coal Works, Glasgow.	Warranted strictly pure.	31 36	54 78	"
"	20	31251	Pol & Thompson, Montague Bridge.	1	30	Lewis, Barger & Son, London, Eng.	Guaranteed pure.	32 25	56 33	"
"	21	31252	John Knight, George- town.	1	25	L. Barry, New York.	Strictly pure.	32 25	56 33	"
"	26	31253	Blair & McKay, Sea- side.	1	29	Canadian Lead Co., Montreal.	Warranted strictly pure.	31 91	56 13	"
"	27	31254	James Kennedy, Ken- nington.	1	28	"	"	33 36	54 06	Very slight residue
"	28	31255	S. W. Childs, Glen- fiddetown.	1	30	Lewis, Barger & Son, London, Eng.	Guaranteed pure.	32 58	57 04	Complete

## DISTRICT OF NEW BRUNSWICK J. C. FERGUSON, INSPECTOR.

May	14	Paris Green.	29677	Robertson, Foster & Co., Smith, Ltd., 77 Beak- Street, London, N. B.	30	The Canada Paint Co., Ltd., Montreal.	Sample from package, labelled strictly pure Paris Green, war- ranted Government standard.	33 14	53 92	Very slight residue	Gomme.
"	14	"	29678	John L. Johnston, 441 Gormon St., St. John, N. B.	30	"	Labelled warranted strictly pure Paris Green. Conforms to Government stand- ard.	32 80	56 67	Complete	"
"	21	"	29679	The Sussex Mercantile Co., Ltd., Sussex, Kent, Co., N. B.	35	Blondell, Stewart & Co., Ltd., Hull & Lon- don.	Packages labelled 1 lb. pure Paris Green, warranted pure (conformable to Gov- ernment standard)	33 18	54 19	"	"
"	22	"	29680	Sumner & Co., Mon- treal, N. B.	30	The Canada Paint Co., Ltd., Montreal, P. Q.	"	31 91	53 15	"	"
"	23	"	29681	John Ferguson, P. O. Square, Newmarket, N. B.	35	Lewis Barger & Son, Ltd., London, Eng.	Labelled pure Paris Green, warranted pure, Government standard.	32 60	56 12	"	"
"	26	"	29682	W. J. Keet & Co., Ltd., Main St., Halifax, N. B.	35	Blondell, Stewart & Co., Ltd., Hull & Lon- don.	Labelled pure Paris Green, warranted pure, Government standard.	31 80	55 06	Very slight residue	"
"	7	"	29683	W. H. Macquins & Co., Campbellton, N. B.	35	The Canada Paint Co., Ltd., Montreal.	Warranted strictly pure Paris Green. Conforms to Gov- ernment standard.	31 58	54 92	Complete	"



BULLETIN No. 158—PARIS GREEN.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Inspector's Report.	RESULT OF ANALYSIS.		Remarks and opinion of the Chief Analyst.
				Quantity.	Value.		Cupric oxide.	Arsenious acid.	

DISTRICT OF NEW BRUNSWICK J. C. FERGUSON, INSPECTOR—Concluded.

1908.	June 4	Paris Green.	29684	The De Wolf Hardware Co., Ltd., cor. King & Huron Sts., St. Stephen, N.B.	1 lb.	35	The Canada Paint Co., Ltd., Montreal.	Warranted strictly pure Paris Green.	31.91	55.13	Very slight residue Genuine.	
"	"	"	29685	W. F. Dibble & Son, Main St., Woodstock, N.B.	1 lb.	30	Lewis, Berger & Sons, Ltd., London, England.	Labelled pure Paris Green, guaranteed pure. Government standard.	32.91	55.27	Complete.	"
"	"	"	29686	James E. Porter & Son, Andover, Victoria Co., N.B.	1 lb.	35	The Canada Paint Co., Ltd., Montreal, Que.		32.02	55.20	"	"

DISTRICT OF QUEBEC E. BELAND, INSPECTOR.

May 11	Paris Green.	26410	G. Fords & Co., Port neuf.	1 lb.	35	Lewis Bros., Montreal.			32.58	55.55	Very slight residue Genuine.	
"	"	26421	Joseph Boivin, Port neuf.	1 lb.	32	Herman Young, Quebec.			31.69	56.97	Complete.	"
"	"	26428	Elzéar Gerard, St. Sante.	1 lb.	25	W. Doyle, Quebec.			31.91	55.31	Very slight residue	"
"	"	26431	F. X. Paquet, St. Sante.	1 lb.	32	G. M. Noel, Quebec.			32.13	54.78	Complete.	"
"	"	26435	A. Bernard, Cap Sante.	1 lb.	35	W. Doyle, Quebec.			32.02	56.69	"	"
"	"	26451	D. Belanger, St. Basile.	1 lb.	30	Lewis Bros., Montreal.			32.80	54.70	"	"
"	"	26459	F. N. Gauthier, St. Basile.	1 lb.	35	Chimie & Method, Quebec.			31.80	55.56	"	"
"	"	26461	Orphe Godin, St. Chris tine.	1 lb.	35	David Modore, Montreal.			33.02	55.82	"	"



"	16	"	"	29462	Bartrand Giroux, St. L.	30	Nod Lemieux, Quebec	31	80	56	05	"	"	"	Genuine.
"	27	"	"	29471	Appelbume Brown, St. L.	18	Joseph Guay, St. Elzear, Beauce.	33	14	52	93	Very slight residue	"	"	"

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

May	11	Pans Green	101	C. Labelle & Co., 14 lb.	53	Blundell, Spence & Co., Ltd., Hull & London.	32	13	55	77	Complete	"	"	"	Genuine.
"	11	"	102	Shoener & Co., 1 lb. 1 box.	30	The Canada Paint Co., Montreal.	32	80	56	18	"	"	"	"	"
"	12	"	103	O. Desmarais & Co., 1 lb.	30	"	32	13	56	76	"	"	"	"	"
"	14	"	104	W. A. Horner, Granby, 1 lb.	40	Blundell, Spence & Co., Ltd.	32	58	58	03	Very slight residue	"	"	"	"
"	14	"	105	F. N. Giroux, Farm 1.	25	The Canada Paint Co.	32	47	57	96	Complete	"	"	"	"
"	18	"	106	J. Bedard & Fils, 1 lb.	40	Lewis, Berger & Sons, Ltd., London.	32	69	53	64	"	"	"	"	"
"	18	"	107	C. O. Genest & Fils, 1 lb.	50	The Canada Paint Co.	32	58	54	57	"	"	"	"	"
"	20	"	108	W. C. Webster & Sons, 1 lb.	35	Blundell, Spence & Co., Ltd.	32	91	57	25	"	"	"	"	"
"	21	"	109	V. Pharoef, St. Made 1 lb.	35	Not known	32	58	54	07	"	"	"	"	"
"	22	"	110	A. Lamyere, St. Hya 1 lb.	30	Blundell, Spence & Co., Ltd.	33	47	55	12	Very slight residue	"	"	"	"

DISTRICT OF MONTREAL, J. J. COSTIGAN, INSPECTOR

May	14	Pans Green	32012	N. Langzevin, Verdoy 1 lb.	40	Canada Paint Co.	31	91	57	61	Complete	"	"	"	Genuine.
"	15	"	32013	O. St. Annon, Drug 1 lb.	50	Lewis, Berger & Sons, Ltd.	32	91	57	74	"	"	"	"	"
"	16	"	32014	A. Ramsay & Son, Co., 1 lb.	30	Vendor.	31	80	54	08	"	"	"	"	"
"	16	"	32015	Dr. Ledue, Drug Co., 1 lb.	35	"	33	36	57	53	"	"	"	"	"
"	16	"	32016	The E. Cavanagh Co., 1 lb.	35	"	32	69	56	61	"	"	"	"	"



BULLETIN No. 158—PARIS GREEN.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.		Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULT OF ANALYSIS.			Remarks and opinions of the Chief Analyst.
				Value.					Cupric oxide.	Arsenious acid.	Solubility in ammonia.	
DISTRICT OF MONTREAL J. J. COSTIGAN, INSPECTOR Concluded.												
1908.						(cts			p c.	p c.		
May 21	Paris Green.	32917	J. L. E. Guimond, 1 lb.	35	Lewis, Berger & Sons, Ltd.		Labelled pure.	.....	33.02	54.84	Complete.	Genuine.
June 1	"	32918	J. A. Coulombe, Ber 1 "	28	.....		Taken from a drum. Labelled pure Paris Green.		32.70	56.72	"	"
" 10	"	32919	Dupuy Ferguson, 1 "	35	Blundell, Spence & Co., Ltd., Hull and London.		Labelled pure Paris Green.		33.14	55.41	"	"
" 11	"	32920	Carpenter Bros., La 1 "	35	Canada Paint Co., Ltd.		Labelled strictly pure.		31.91	54.15	"	"
" 11	"	32921	W. Bamford & Sons, 1 "	35	Lewis, Berger & Sons, Ltd.		Labelled pure Paris Green.		31.25	52.24	"	"
DISTRICT OF OTTAWA J. A. RICKY, INSPECTOR.												
May 21	Paris Green.	34154	Dunlop & Company, 1 lb.	35	The Canada Paint Co., Ltd., Toronto, Ont.		Box labelled, warrant'd strictly pure Paris green, conforms to Canadian Govt. standard, sold as pure Paris green.		32.80	56.18	Complete	Genuine.
" 21	"	34155	Mackie & Ryan, Pen 1 "	35	"		"		32.69	56.12	"	"
" 23	"	34156	D. Doyle, Hawkes 1 "	40	Lewis Berger & Sons, Ltd., London, Eng.		Labelled pure Paris green, guaranteed, Govt. standard, sold as pure Paris green.		32.69	56.12	"	"
" 23	"	34157	R. H. Bradfield & Co., 1 "	35	A. Ramsay & Son, Montreal, Que.		Labelled pure Paris green, A. Ramsay & Son, Montreal, sold as pure Paris green.		32.36	54.42	"	"







BULLETIN No. 158—PARIS GREEN.

Date of Collection.	Nature of Sample.	No. of Sample	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULT OF ANALYSIS.			Remarks and opinion of the Chief Analyst.
				Quantity.	Value.			Cupric oxide.	Arsenious acid.	Solubility in ammonia.	

DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

1908.					Cts.				p.c.	p.c.	Complete	Genuine.
May 11	Paris Green.	35089	B. W. Donnelly, Ancaster.	1 lb.	35	Sherwin Williams, Montreal.			32.25	57.82	Complete	
" 12	"	35090	Ropers Drug Store, Dr. J. M. Forbes, Prop., Caledonia.	1 "	35	" "			32.13	37.25	"	"
" 12	"	35091	Jas. Shuldrick, Hagersville.	1 "	40	Canada Paint Co., Montreal.	Sample labelled. Warranted strictly pure Paris green.		31.69	54.01	"	"
" 13	"	35092	Moote & Son, Dunville	1 "	30	" "	"		32.36	55.40	"	"
" 14	"	35 93	W. J. Quinsey, Cayuga	1 "	35	Vendor thinks it was supplied from J. Winer & Co., Hamilton	Sample from original package from bulk.		32.80	56.67	"	"
" 19	"	35094	R. A. Land, Bridgeburg	1 "	25	J. Winer & Co., Hamilton.	From bulk.		31.46	56.82	"	"
" 21	"	35095	P. H. Gamble, Grimsby.	1 "	40	Canada Paint Co., Ltd. Toronto & Montreal.	Supplied by Hobbs' Hardware Co., London. Warranted strictly pure Paris green.		32.02	55.70	"	"
" 23	"	35096	H. E. Moore, Oakville	1 "	30	" "	Sample supplied by Rice Lewis & Sons, Ltd., Toronto, taken from bulk.		32.36	54.91	"	"
" 27	"	35097	L. A. De Laplante, East Toronto.	1 "	30	Sherwin Williams Co., Toronto & Montreal.	Vendor said it was Berger's green.		32.80	56.18	"	"
" 27	"	35098	Fred. Murch, East Toronto.	1 "	30	Lyman Bros. & Co., Ltd., Toronto.	Sample from small package per bag.		32.91	54.78	"	"



## SESSIONAL PAPER No. 14

## DISTRICT OF LONDON—T. KIDD, INSPECTOR.

May 12 Paris Green.	30495 H. C. Doulton, Druggist, Goodrich.	1 lb.	35	Winer & Co., Hackney	32 25	57 32	Complete	Genuine.
" 12 "	30496 Chas. Lee, Hardware Merchant, Goodrich.	1 "	35	Sherrin, Williams & Co., Goodrich, Ontario.	32 58	58 63	Very slight residue	"
" 14 "	30905 Frank H. Smith, Druggist, St. Marys.	1 "	40	Canada Paint Co., Toronto.	32 47	55 58	Complete	"
" 16 "	30911 Chas. & Archibald, Seed and Fruit.	1 "	40	Sherrin, Williams & Co., Montreal.	33 36	54 56	Very slight residue	"
" 16 "	30912 Ross & Wilson, Sons.	1 "	35	Canada Paint Co., Toronto.	32 47	56 47	Complete	"
" 18 "	30913 Peter Bell, Dublin.	1 "	40	Hobbs, Hylward & Co., London, Ont.	32 25	55 84	"	"
" 20 "	30923 J. J. Dwyer, Druggist, Stratford.	1 "	30	Not known.	32 60	56 12	"	"
" 26 "	30924 McCurdy Bros., Stratford.	1 "	25	Not known.	32 02	57 18	"	"
" 26 "	30928 M. Pherson, Druggist, Blythe.	1 "	30	Sherrin, Williams & Co., Montreal.	32 13	58 24	"	"
" 27 "	30932 J. D. Barr, Winchester.	1 "	20	Canada Paint Co., Montreal.	32 47	55 18	Very slight residue	"

## DISTRICT OF WINDSOR J. FALLOOL, INSPECTOR.

May 14 Paris Green.	34536 MacKinnon, Macdonald & Co., Sydney.	5 lb.	40	Loxton, Rogers & Son, London, Ont.	32 30	55 26	Very slight residue	Genuine.
" 14 "	34536 Chas. G. Ingram, Sydney.	1 "	30	Loxton, Rogers & Son, London, Ont.	31 58	56 50	Complete	"
" 14 "	34543 W. H. Davis, Port Huron, Mich.	1 "	40	Loxton & Son, London, Ont.	32 20	54 70	"	"
" 18 "	34548 O. Rapp, Port Huron, Mich.	1 "	30	Canada Paint Co., Toronto.	32 35	53 56	"	"
June 9 "	34554 J. A. Wilson, Port Huron, Mich.	1 lb.	34	Not known.	30 14	56 63	"	"
" 9 "	34560 M. H. Remington, Port Huron, Mich.	1 lb.	30	Loxton & Son, London, Ont.	30 80	56 06	"	"
" 10 "	34561 Jas. H. Brown, Woodstock, Ont.	1 lb.	60	"	32 13	56 26	"	"
" 10 "	34568 Patrick Barr, Woodstock, Ont.	1 lb.	30	Loxton, Rogers & Son, London, Ont.	32 02	56 19	"	"
" 10 "	34569 F. N. Davis, Woodstock, Ont.	1 "	40	Canada Paint Co., Toronto.	32 25	58 84	"	"
" 25 "	34573 E. Richard & Co., Aylmer.	5 lb.	60	Not known.	30 80	57 31	"	"



BULLETIN No. 158—PARIS GREEN.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.		Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	Result of Analysis.			Remarks and opinion of the Chief Analyst.
									Cupric oxide.	Arsenious acid.	Solubility in ammonia.	

DISTRICT OF MANITOBA—A. C. LARIVIERRE, INSPECTOR.

1908.		Cts.												
May	19	Paris Green.	33113	The Speer Stevenson Drug Co., Minnedosa	1 lb.	25	Not given	.....	.....	.....	p.c.	p.e.	Genuine.	
"	19	"	33114	R. T. Batchart, Drug gist, Minnedosa.	1 "	20	"	.....	.....	.....	32.02	56.69	"	
"	20	"	33115	Mair & Barton, Hardware, Minnedosa.	1 lb 1/4	65	The Canada Paint Co., Ltd., Montreal, Toronto and Winnipeg.	Paris green for potato bugs, strictly pure.	Poison.	.....	31.46	55.35	"	
"	21	"	33116	W. T. Lang, Druggist, Norwood Grove, P.O. St. Boniface.	1 1/2 lb.	65	Blundell, Spence & Co., Ltd., Hull & London.	pure Paris green.	Labelled green.	.....	32.47	55.98	"	
"	21	"	33117	Whiting Hardware Co., Norwood Grove, P.O. St. Boniface.	1 "	40	Lewis Berger & Sons, London, England.	"	"	.....	31.14	54.64	"	
"	21	"	33118	Poyntz & Co., Drug gists, Winnipeg.	1 "	40	"	"	"	.....	32.58	55.55	"	
"	22	"	33119	J. R. Clements, Main St. North, Winnipeg.	1 "	35	The Canada Paint Co., Ltd., Montreal, Toronto and Winnipeg.	Strictly pure Paris green.	.....	.....	32.58	58.03	"	
"	22	"	33120	Neil H. Lightly Co., Hardware, Winnipeg.	1 "	35	"	Put up in paper box.	.....	.....	32.13	57.75	"	
"	27	"	33121	W. H. G. Gibbs, Druggist, West Selkirk.	1 "	40	The Canada Paint Co., Ltd.	Strictly pure Paris green.	.....	.....	31.46	56.33	Very slight residue	
"	28	"	33122	G. M. Brown, Hardware, Stonewall.	1 "	50	"	"	"	.....	32.13	56.76	Complete	

DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

June	22	Paris Green.	28920	Bole Drug Co., Calgary.	1 lb.	40	Unknown	.....	.....	.....	.....	Genuine.
"	22	"	28921	Oliver Bros., Calgary.	1 "	30	"	.....	.....	.....	.....	"



"	25	"	28922	Curry & Co., Calgary.	30	31	36	56	76	"
"	24	"	28923	C. A. Wallac, Calgary.	1 00	32	80	56	67	"
"	24	"	28924	Jas. Finlay Iron Co., Ltd., Calgary.	40	33	36	57	03	Very slight residue
"	24	"	28925	O. H. Bott, Calgary.	75	33	14	57	98	Complete
"	24	"	28926	M. Maclean, Calgary.	50	32	80	56	18	"
"	26	"	28927	C. S. Priord, Medicine Hat.	50	33	14	55	90	Very slight residue
"	27	"	28928	H. Thompson & Co., Ltd., Calgary.	40	33	24	56	95	Complete
"	29	"	28929	J. H. Walker, Medicine Hat.	50	33	42	58	65	"

HOUGHTON, R. W. 1907. 10 J. ARIZON.

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BULLETIN No. 158—PARIS GREEN.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULT OF ANALYSIS.			Remarks and opinion of the Chief Analyst.	
				Quantity.	Value.			Cupric oxide.	Arsenious acid.	Solubility in ammonia.		
DISTRICT OF VICTORIA—D. O'SULLIVAN, INSPECTOR.												
1908.					Cts.							
June 23	Paris Green.	34920	Hall & Co., Victoria, B.C.	1 lb.	50	Henderson Bros., Victoria, B.C.	.....	33.36	56.04	Complete.	.....	Genuine.
" 23	"	34921	D. E. Campbell, Victoria, B.C.	1 "	50	P. McQuade & Sons, Victoria, B.C.	.....	32.13	56.76	"	.....	"
" 24	"	34922	W. Jackson & Co., Victoria.	1 "	50	Henderson Bros., Victoria, B.C.	.....	33.14	56.89	"	.....	"
" 24	"	34923	Dean & Hiscocks, Victoria.	1 "	30	J. Weiner, Toronto, Ont.	.....	32.25	56.83	"	.....	"
" 24	"	34924	Geo. Morison & Co., Victoria, B.C.	1 "	75	Canada Paint Co., Montreal.	.....	31.58	55.42	"	.....	"
" 24	"	34925	Cyrus H. Bowes, Victoria, B.C.	1 "	75	Lyman & Sons, Montreal.	.....	31.91	54.64	Very slight residue	.....	"
" 24	"	34926	Thos. Shotbolt, Victoria, B.C.	1 "	75	Canada Paint Co., Montreal, P.Q.	.....	32.80	56.18	"	.....	"
" 24	"	34927	B. C. Drug Co., Victoria, B.C.	1 "	50	F. J. Barry, New York.	.....	31.91	56.62	Complete.	.....	"
" 24	"	34928	G. A. Fraser, Victoria, B.C.	1 "	65	Henderson Bros., Victoria, B.C.	.....	31.80	56.05	"	.....	"
" 24	"	34929	Terry & Merrett, Victoria, B.C.	1 "	65	"	.....	31.80	56.05	Very slight residue	.....	"



APPENDIX I.

BULLETIN No. 159—OLIVE OIL.

OTTAWA, August 4, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 82 samples of Olive Oil, collected by our inspectors throughout Canada, in May last.  
Their examination in this laboratory results in the following classification :—

Genuine.....	64 samples.
Adulterated.....	15 “
Sold as Salad Oil, without the use of the word “Olive”. ...	3 “
Total.....	82 “

It is to be noted that several of the samples classed as adulterated are described as “ordinary Olive Oil,” “Huile d'Olive” or “Olive Salad Oil.” These names involve the use of the word “Olive,” and cannot be regarded as justifying the sale of an article which is not Olive Oil.

Olive Oil has been made the subject of inspection on three different occasions, including the present ; and the results of previous inspections will be found in Bulletins 67 and 111 of this department. The following synopsis is of interest :—

Bulletin.	Year.	Total Samples.	Genuine.	Doubtful.	Adulterated.	Per Cent Adulterated.
67	1899	75	49	5	20	40.0
111	1905	108	66	20	16	14.8
159	1908	82	64	3	15	18.3

It is to be noted that under the heading “doubtful” I have included such samples as are sold as “Salad Oil,” without the use of the word “Olive.”  
I beg to recommend that this report be published as Bulletin No. 159.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
Chief Analyst.



BULLETIN No. 159 OLIVE OIL.

Date of Receipt.	Name of Sample.	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and opinion of the Chief Analyst.
							Refractive index at 15.5° C.	Iodine number.	Nitric acid colour test.	Halphen's colour test.	

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

1908.													
May	12	Olive Oil.	33630	J. McD. Taylor, Halifax, N.S.	10 oz.	35	Nat. Drug & Chemical Co., Halifax, N.S.	Sample taken from bottle in stock.	p.c.	1 4704	Green.	No colour	Genuine.
"	12	"	33631	J. L. Archibald & Son, Halifax, N.S.	10 "	40	A. Jonas, Honart, France.	"	1 4702	"	"	"	"
"	13	"	33632	Nat. Drug & Chemical Co., Halifax, N.S.	12 "	40	Unknown	Sold as pure.	1 4700	"	"	"	"
"	15	"	33633	Geo. McDougall, Kentville, N.S.	12 "	40	Nat. Drug & Chemical Co., Halifax, N.S.	Sample from gall. can in stock.	1 4698	"	"	"	"
"	20	"	33634	H. S. Wilson, Windsor, N.S.	10 "	30	H. Rene, France	Supplied to Vendor by Lyman & Sons, Montreal, Que.	1 4708	"	"	"	"

DISTRICT OF PRINCE EDWARD ISLAND T. MOORE, INSPECTOR.

May	18	Olive Oil.	31256	Sanderson & Co., Charlottetown.	10 oz.	45	Crosse & Blackwell, London.	Pure Lucca Oil, guaranteed genuine olive oil.	1 4702	Green.	No colour.	Genuine.
"	19	"	31257	Mathew McLean, Souris.	10 "	30	E. S. Weaton & Co., Ancherst, N.S.	Finest quality pure olive oil.	1 4692	Yellow.	"	"
"	20	"	31258	Ellis Pharmacy, Montague.	12 "	50	Canada Drug Co., St. John, N.B.	"	1 4740	111 Brown.	Red	Adulterated.
"	27	"	31259	Jardine & Bernard, Kensington.	10 "	30	Dr. Scott's White Liniment Co., St. John, N.B.	"	1 4694	Green	No colour.	Genuine.
"	27	"	31260	R. Tuplin & Co., Kingston.	10 "	15	Imperial Oil Co., Halifax.	"	1 4708	"	"	"



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## DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

May	12 Olive Oil.	29687 Charles R. Wasson, 1003 lots, King St., St. John, N.B.	60	W. Atwood & Sons, 1003 lots, France.	Sample from 1 gall. can "Pink" in can War- tick Bros., Grosse, France.	1 4700	Green	No colour.	Genuine.
"	21 "	29688 Fairweather Bros., 10 oz., Main St., Moncton, N.B.	30	Nat. Drug Co., Ltd., St. John, N.B.	Guaranteed absolutely pure. Imported by the Nat. Drug & Chem. Co. of Canada, Ltd.	1 4703	"	"	"
"	25 "	29689 A. Chipman, Smith & 10, Co., Water St., Bath- urst, N.B.	25	Anglo-Gallard & Co., Marseilles, France.	From 1 gall. can, label- led Olive Oil, Sub- lime, Extra. Guar- anteed to contain 1 full gallon of pure oil.	1 4700	"	"	"
June	1 "	29690 Johnston & Johnston, 10, King St., St. Stephen, N.B.	20	W. Atwood & Sons, 1003 lots, France.	Labelled vegetable hu- d olive, Surfine. Fur- nished to vendors by Peters & Co., King- ston, Ont.	1 4703	"	"	"
"	6 "	29691 George T. Dobbson, 10, Queen & York Sts., Fredericton, N.B.	40	"	From stock bottle, labelled from gall. can, labelled Olive Surfine.	1 4710	"	"	"

## DISTRICT OF QUEBEC—F. BELAND, INSPECTOR.

May	12 Olive Oil (Virgin)	26417 Joseph Marotte, Part 3 bush, neat	30	W. Brunette & Co., Quebec.	1 4738	103 Brown.	Red	Adulterated.
"	12 Salad Oil (Salad)	26422 Joseph Boivin, Part 3 bush, neat.	30	N. Rioux & Co., Que- bec.	1 4739	111 "	"	Cotton seed oil.
"	11 Olive Salad Oil	26433 Nap. Fleury, St. Roch, 3 bush, neat.	30	"	1 4738	116 "	"	Adulterated.
"	11 Virgin Olive Oil.	26442 Chas. L. Gauthier, 3 bush, neat.	30	H. and P. Fleury, Quebec.	1 4740	114 "	"	"
"	11 Virgin Olive Oil.	26449 Adolphe Tremblay, 3 bush, neat.	30	Leclerc & Lacombe, Que- bec.	1 4738	109 Brown.	Red	Adulterated.
"	15 Best Olive Oil.	26450 Ph. Fleury, St. Roch, 3 bush, neat.	30	T. Fleury, Quebec.	1 4708	Green.	No colour.	Genuine.
"	15 Salad Oil.	26453 Edouard Marotte, 3 bush, neat.	30	W. Brunette & Co., Que- bec.	1 4740	111 Brown.	Red.	Cotton Seed Oil
"	15 Pure Olive Oil	26456 J. T. Marotte, 3 bush, neat.	30	Leclerc & Lacombe, Que- bec.	1 4738	111 "	"	Adulterated.
"	15 Salad Olive Oil.	26458 F. N. Gauthier, 3 bush, neat.	30	J. Fleury & Son, Quebec.	1 4738	113 "	"	"
"	14 Virgin Olive Oil.	26465 Edmund Gauthier, 3 bush, neat.	30	N. Brunette & Co., Que- bec.	1 4739	109 "	"	"
"	14 Salad Olive Oil.	26466	30	"	1 4738	114 "	"	"



BULLETIN No. 159 OLIVE OIL.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Purisher as given by the Vendor.	RESULTS OF ANALYSIS.				Remarks and opinion of the Chief Analyst.
				Quantity.	Units.		Refractive index at 15° C.	Dilution number.	Nitric acid colour test.	Halphen's colour test.	

DISTRICT OF ST. HYACINTHE J. C. ROULEAU, INSPECTOR.

1908.	May	11 Olive Oil.	112 J. O. Pagnan, Sorel	1 canister		Adolphe Puget, Mar seilles.	1 4708	Green.	No color	Genuine.
		12 Salad Oil.	113 O. Desmarais & Co, St. 3 bots.	50		Superieure.	1 4740	116 Brown.	Red.	Cotton Seed Oil
		13 Olive Oil.	114 J. P. Bertrand, Iler 1 pt.	45		G. Devilliers, Ilerville.	1 4702	Green.	No color	Genuine.
		14 "	115 Tobin Store Co., Bromp 3 bots.	30		E. Loubon, Nice.	1 4742	82 Brown.	Red	Adulterated.
		20 "	116 Ed. Lacroix, Chateauc 3 "	24		Frazier Thornton & Co., Labelled Huile d'Olive Française.	1 4738	110	"	"

DISTRICT OF MONTREAL J. J. COSTIGAN, INSPECTOR.

May	22 Olive Oil.	32922 A. Kour, 31 Bonse, 1 tin.	45			Imported expressly for the Vendor. Solbas Pure Lucca Olive Oil.	1 4704	Green.	No color.	Genuine.
	29 "	32923 Raymond Frenes, 259 1 pt St. Lawrence St., Montreal.	30		Imported.	Bottles labelled by Vendor. Huile d'Olive Surfine.	1 4706	"	"	"
	29 "	32924 " " 1 "	18		"	Bottles labelled by Vendor. Huile d'Olive de Cuisine.	1 4740	107 Brown.	Red	Adulterated.
	29 "	32925 A. E. Sennat, 188 1 bot Dorchester W., Montreal.	50		J. B. & A. Artand freres Marseilles.	Labelled Surfine. Clarifiée.	1 4710	Green.	No color.	Genuine.
	29 "	32926 D. Masson & Co., St. 1 Paul St., Montreal.	50		Adolphe Puget, Mar seilles.		1 4703	"	"	"







BULLETIN No. 159—OLIVE OIL.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost		Name and Address of Manufacturer or Furnisher as given by the Vendor.	RESULTS OF ANALYSIS.				Remarks and opinion of the Chief Analyst.
				Quantity.	Cents.		Refractive Index at 15°c.	Iodine number.	Nitric acid colour test.	Halphen's colour test.	

DISTRICT OF TORONTO—Continued.

1908.							P.C.				
May 15	"	35102	S. H. Griffith, Welland	1/2 pt.	40	Gorman Eckert, London.	1 4700	Green	No colour.	Genuine.	
" 15	"	35103	R. Greenwood, Port Colborne.	3 Bats	38	J. T. Postings, St. Catharines.	1 4702	"	"	"	"

DISTRICT OF LONDON—T. KIDD, INSPECTOR.

May 16	Olive Oil.	30910	Mathew Williams, Grocer, Seaforth.	3 Bats	75	Crosse & Blackwell, London, Eng.	1 4698	"	"	"	"
" 20	"	30917	Edward O'Flaherty, Grocer, Stratford.	3 "	90	E. Adams, Stratford.	1 4700	"	"	"	"
" 20	"	30919	Barnsdale Trading Co., Stratford.	3 "	30	Olive Grocers Association, Canada, Not known.	1 4702	"	"	"	"
" 20	"	30921	Walsh Bros., Stratford	3 "	75	Not known.	1 4700	"	"	"	"
June 30	"	30933	S. A. Hodge, Hamilton, Ont.	3 "	50	Nat. Drug Co., Hamilton, Ont.	1 4704	"	"	"	"

DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR.

May 17	Olive Oil.	34542	J. McRobie, Petrolia	10 oz	40	Nat. Drug Co., London	1 4698	"	"	"	"
" 15	"	34544	W. H. Dale, Petrolia	9 "	30	Drug Trading Co., Toronto.	1 4705	"	"	"	"
" 19	"	34554	C. E. Nasmyth, Stratford.	12 "	45	Warrick Freres Grasse, France.	1 4704	"	"	"	"
June 10	"	34563	R. H. Walton, Woodstock.	12 "	50	Nat. Drug Co., Toronto.	1 4702	"	"	"	"



DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

17	May 19	Olive Oil.	33123	Wright & Co., grocers, Minnedosa.	1 pt.	25	Imported by Grosse & Blackwell, London, Eng.	Pure Lucca Oil.	1 4705	Green.	No colour.	Genuine.
18	"	"	33124	Key & Arncliffe, neolosa.	10 oz.	15	E. Morette, Nice.	Huile de Olive Verge, Nice.	1 4738	109 Brown.	Red	Adulterated.
	"	"	33125	Poyntz & Co., drug gists, Winnipeg.	3 lbs.	75	Lynan Bros. Co., Ltd., Toronto.	Cream Salad Oil. Ly-	1 4700	Green.	No colour.	Genuine.
	"	"	33126	Brown's Drug Store, Winnipeg.	1 pt.	35	Frederick Fries & Co., Grosse.	Huile de Olive. Super fine.	1 4700	"	"	"
	"	"	33127	Colebrough & Co., drug gists, Winnipeg.	3 lbs.	75	Hippolyte Rene, Mar- seille, France.	Huile de Olive Double mont clair.	1 4705	"	"	"
	"	"	33148	S. J. McDermott	18 oz.	90	Holbrook & Co.	Huile de Olive.	1 4698	"	"	"
	"	"	33149	St. John's Pharmacy, Thornton Andrews, Winnipeg.	10 "	25	Not given	Sold as ordinary olive oil.	1 4740	112 Brown	Red	Adulterated.

DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

June 22	Olive Oil.	28930	Campbell, Wilson & 34 oz.	60	Holbrook & Co., Nice	1 4701	Green.	No colour.	Genuine.
"	"	28931	L. T. McEwen & Co., 3 "	50	Grosse & Blackwell, Ltd., London.	1 4698	"	"	"
"	"	28932	Bele Drug Co., Calgary 3 "	45	Unknown	1 4698	"	"	"
"	"	28933	G. F. & J. Galt, Ltd., 3 "	50	F. E. Daly & Co., Ltd., Hamilton.	1 4739	Brown.	Red	Adulterated.
"	"	28934	Georgeson & Co., Ltd., 3 "	1 25	Reiss & Brady, Mont- real.	1 4702	Green.	No colour.	Genuine

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

May 13	Olive Oil.	34260	T. S. Wallace, Van- 3 lbs.	90	Seville Packing Co., Absolutely pure and un- adulterated. Bottled in Nice, France, from sound olives.	1 4703	Green.	No colour.	Genuine.
"	"	34261	J. A. Baker, Vancoer 3 "	75	Schreder & Schreder, France.	1 4702	"	"	"
"	"	34262	J. A. Baker, Vancoer 3 "	75	Grosse & Blackwell, Guaranteed genuine. London, Eng.	1 4700	"	"	"
"	"	34263	E. H. McMillan, Van 3 "	45	G. F. Sutton, London, Sold as olive oil cover.	1 4697	"	"	"
"	"	34264	H. A. Edgett Co., Ltd., 3 "	45	Holbrooke & Co., Guaranteed pure France.	1 4704	"	"	"



BULLETIN No. 159—OLIVE OIL.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	Results of Analysis.					Remarks and opinion of the Chief Analyst.
				Quantity.	Cents.			Refractive Index at 15 deg.	Lothine number.	Nitric acid colour test.	Halphen's colour test.		

DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR.

1909.													
May 28	Olive Oil.	34875	W. B. Hall, Victoria, B.C.	1 bot.	50	H. J. Henry & Co., Pittsburgh, Pa.		1 4706		Green.	No colour.	Genuine.	
June 17	"	34890	Windsor Grocery Co., Victoria, B.C.	1 pt	90	American Olive Co., Los Angeles, Cal.	Pure olive oil.	1 4708		"	"	"	
" 17	"	34891	Windsor Grocery Co., Victoria, B.C.	1 "	50	Crosse & Blackwell, London, Eng.	Crosse & Blackwell, Pure olive oil.	1 4708		"	"	"	
" 17	"	34894	Saunders Grocery Co., Ltd., Victoria, B.C.	1 "	65	W. C. Polson & Co., Kingston, Ont.		1 4704		"	"	"	
" 17	"	34897	Saunders Grocery Co., Ltd., Victoria, B.C.	1 "	65	Meyers & Lange, New York.		1 4703		"	"	"	



## APPENDIX J.

## BULLETIN No. 160—NATIVE WINES.

OTTAWA, September 1, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I have the honour to report herewith upon 101 samples of Native Wine collected during February, March and April of the present year. These were obtained in 14 of the Inspectoral Districts of Canada (none from Prince Edward Island), and may be taken to fairly represent Native Wine as sold in Canada.

The only other systematic examination of wines by this Department is reported in Bulletin 38, of June, 1894. On that occasion 124 samples were analysed; but this number included many imported wines. Only 36 samples are of acknowledged Canadian manufacture. In his introduction to the Bulletin in question, the late Chief Analyst says:—‘In the present report it is proposed to make a first contribution towards a better understanding of the subject, and to endeavour to point out how far the various wines sold in Canada have been fortified, or made from added sugar.’

The results of analysis show that, with three doubtful exceptions, all of the samples of Canadian wines examined in 1894, were made from sugared must. This conclusion was reached by assuming a maximum of 20 per cent natural sugar in grape must, and the production of 50 per cent (weight) of alcohol from the fermentation of sugar. By far the larger number of these wines contained from 5 to 12 per cent of unfermented sugar, while the alcohol was usually present to about 10 to 12 per cent, (22 to 26 per cent proof spirit). The popular taste seems to demand a sweet wine, because some 6 or 7 samples occur in which the residual sugar is less than 0.5 per cent, proving that dry wines can be produced in Canada, if desired.

The most difficult and expensive part of wine production is the cellar treatment. Other fermentations than the alcoholic are prone to take place, and acidity results. To check these undesirable fermentations alcohol is sometimes added, and the wine is impaired as regards bouquet, and other qualities. Salicylic acid, or other preservative may be used to check fermentation, without addition of alcohol. In any case, the production of those esters, and other by-products of the natural fermentation of sugar, whose presence gives character and value to the best wines, is hindered, and the resultant beverage while not necessarily unwholesome, as a wine, is of low quality.

The present report (See Table I) indicates that, if judged by the same standard used in Bulletin 38, all the samples examined this year are made from wine must to



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which sugar has been added ; three samples being excepted. These are Nos. 27975 and 27976, made by la Cie Vinicole, St. Joseph of St. Hyacinthe, and 31576, by E. Bourget, of Montreal.

Only six (6) samples contain less than 0·5 per cent of residual sugar ; the great majority of the samples showing from about 8 to 15 per cent of dextrose. It would appear that to produce a wine such as public taste demands, sugar in considerable quantity must be added to the grape juice.

As pointed out in Bulletin 38, the French law of 1889 defines wine as solely the product of the fermentation of fresh grape juice. Any additions to the juice must correspond to distinctive names in the product, which may be sold as 'Sugar Wine,' &c. We have no Canadian Standards in the matter of wines ; but it may be well to note the definitions made legal in the United States in 1906.

1. Wine is the product made by the normal alcoholic fermentation of the juice of sound, ripe grapes, and the usual cellar treatment, and contains not less than seven (7) nor more than sixteen (16) per cent of alcohol, by volume (12·30 to 28·00 per cent proof spirit) and, in one hundred (100) cubic centimeters (20° C.), not more than one-tenth (0·1) gram of sodium chloride nor more than two-tenths (0·2) gram of potassium sulphate ; and for red wine not more than fourteen hundredths (0·14) gram, and for white wine not more than twelve hundredths (0·12) gram of volatile acids produced by fermentation and calculated as acetic acid. *Red wine* is wine containing the red colouring matter of the skins of grapes. *White wine* is wine made from white grapes or the expressed fresh juice of other grapes.

2. *Dry wine* is wine in which the fermentation of the sugars is practically complete and which contains, in one hundred cubic centimeters (20° C.), less than one (1) gram of sugars and for dry red wine not less than sixteen hundredths (0·16) gram of grape ash and not less than one and six-tenths (1·6) grams of sugar-free grape solids, and for dry white wine not less than thirteen hundredths (0·13) gram of grape ash and not less than one and four-tenths (1·4) grams of sugar-free grape solids.

3. *Fortified dry wine* is dry wine to which brandy has been added, but which conforms in all other particulars to the standard of dry wine.

4. *Sweet wine* is wine in which the alcoholic fermentation has been arrested, and which contains, in one hundred (100) cubic centimeters (20° C.), not less than one (1) gram of sugars, and for sweet red wine not less than sixteen hundredths (0·16) gram of grape ash, and for sweet white wine not less than thirteen hundredths (0·13) gram of grape ash.

5. *Fortified sweet wine* is sweet wine to which wine spirits have been added. By Act of Congress, 'sweet wine' used for making fortified sweet wine and 'wine spirits' used for such fortification are defined as follows (sec. 43, Act of October 1, 1890, 26 Stat., 567, as amended by section 68, Act of August 27, 1894, 28 Stat., 509, and further amended by Act of Congress, approved June 7, 1906): 'That the wine spirits mentioned in section 32 of this act is the product resulting from the distillation of fermented grape juice to which water may have been added prior to, during, or after fermentation and economical distillation thereof, and shall be held to include the products from grapes or their residues, commonly known as grape brandy ; and the pure sweet wine, which may be fortified free of tax, as provided in said section, is fermented grape juice only, and shall contain no other substance whatever introduced before, at the time of, or after fermentation, except as herein expressly provided ; and such sweet wine shall contain not less than four per centum of saccharine matter, which saccharine strength may be determined by testing with Balling's saccharometer or must scale, such sweet wine, after the evaporation of the spirits contained therein, and restoring the sample tested to original volume by addition of water : *Provided*, That the addition of pure boiled or condensed grape must or pure crystallized cane or beet sugar or pure anhydrous sugar to the pure grape juice aforesaid, or the fermented product of such grape juice aforesaid, or the fermented product of such grape juice prior to the fortification provided by this Act for the sole purpose of perfecting sweet wine according to commercial standard, or



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the addition of water in such quantities only as may be necessary in the mechanical operation of grape conveyors, crushers, and pipes leading to fermenting tanks, shall not be excluded by the definition of pure sweet wine aforesaid: *Provided however*, That the cane or beet sugar, or pure anhydrous sugar, or water, so used shall not in either case be in excess of ten (10) per centum of the weight of the wine to be fortified under this Act: *And provided further*, That the addition of water herein authorized shall be under such regulations and limitations as the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, may from time to time prescribe: but in no case shall such wines to which water has been added be eligible for fortification under the provisions of this Act where the same, after fermentation and before fortification, have an alcoholic strength of less than five per centum of their volume.'

6. *Sparkling wine*, is wine in which the after part of the fermentation is completed in the bottle, the sediment being disgorged and its place supplied by wine or sugar liquor, and which contains, in one hundred (100) cubic centimeters (20° C.), not less than twelve hundredths (0.12) gram of grape ash.

7. *Modified wine, ameliorated wine, corrected wine*, is the product made by the alcoholic fermentation, with the usual cellar treatment, of a mixture of the juice of sound, ripe grapes with sugar (sucrose), or a syrup containing not less than sixty-five (65) per cent of sugar (sucrose), and in quantity not more than enough to raise the alcoholic strength after fermentation, to eleven (11) per cent by volume.

8. *Raisin wine*, is the product made by the alcoholic fermentation of an infusion of dried or evaporated grapes, or of a mixture of such infusion or of raisins with grape juice.

It is apparent from the above that the term 'wine' may be legally applied to a very great variety of products of grape fermentation. Nor is it an easy matter to classify these wines in such a way as to obtain any useful result. Perhaps the most obvious division would be into red wines and white wines. Nearly all the subordinate characters which red wines possess are duplicated in the white wines.

Wines (red or white) may further be divided into *dry wines*, or those in which the fermentation of sugar is carried to completeness, or nearly so, and *sweet wines*, in which sugar above about one per cent. (1 p.c.) remains as such. It is to this last class that most of the native wines, now reported, belong.

Chambers makes the following classification of wines:—

1. Strong Dry Wines.—E.g. Sherry, Port, Madeira, Johannisberg.
2. " Sweet " — " Johannisberg Tokay, Malaga, Sweet Sherry, Sweet Champagne, Sweet Madeira, &c.
3. Aromatic Wines.—Rhine Wines, Moselle, Capri, Chablis, Sauterne, White Burgundy, &c.
4. Acid Wines.—Containing excess of acid.
5. Sparkling Wines.—Champagne, Sparkling Moselle, &c.
6. Perfect Wines, or those which contain no specially prominent ingredient, e.g. High grade Clarets, Bordeaux, Burgundies, Chambertin, &c.
7. Rough Wines.—Containing excess of tannin.

However it might be possible to arrange the wines of the world's produce into such closely defined groups, when an attempt is made to do this for our own native wines, quite insurmountable difficulties are met.

König (Chemie der Nahrungs und Genussmittel, Bd II, 1282) says: 'A very large number of kinds of wine exist: we may almost say that there are so many different kinds of wine as there are different kinds of grapes, and different grape-growing countries. Even the wine from the same region differs in different vineyards. One may however, divide the greater number of wines into three classes: I. Ordinary Table Wines; II. Dessert or Sweet Wines; III. Sparkling Wines; although it must be remembered that many wines form a transition from one class to the next.'



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Definition necessarily implies limitation, or approximate agreement with type. Port Wine, for example, is not necessarily the product of a certain region of Spain; although it may be justly argued that a port wine, of other than Spanish origin, should be distinctively labelled to show the place of production. Apart from this consideration, it may be asked, what are the essential characters of port wine?

*König* (l.c. 1310) quotes, as the mean of many analyses of port wine, the following:—

Specific gravity.....	1·0088	
Alcohol.....	16·18	(= 34·8 p.c. (proof spirit))
Extract. ....	8·25	
Sugar.....	6·04	
Non-Sugars.....	2·21	
Total Acidity .....	0·42	(as tartaric acid)
Volatile “ .....	0·085	(as acetic acid)
Fixed “ .....	0·335	(as tartaric “)

England and America afford the largest markets for Port Wine, and it is evident that some attempt to approximate to the port type governs the production of wine in Canada. That a very uncertain and vague conception of what constitutes this type is held by some of our wine makers, appears from a study of Table II, of this report. The 31 samples embraced in this table, were all sold under the name ‘Canadian Port’ or ‘Native Port.’

It will be seen that they vary in specific gravity from 1·0002 to 1·0762.

Alcohol (proof spirit).....	16·42	to 38·18
Extractive.....	2·65	to 24·29
Sugar.....	1·59	to 19·00
Non-Sugars.....	0·41	to 3·83
Total Acidity .....	0·525	to 1·035
Volatile “ .....	0·066	to 0·473
Fixed “ .....	0·345	to 0·645

For purposes of comparison I have introduced into Table II certain results of the analysis of genuine port wines. Even the port wines of Portugal itself, differ considerably among themselves, not alone in different years, but from different localities. Yet it will be seen that there is a general resemblance among them, in regard to their alcohol content, their residual sugar, their acidity, and otherwise. It is quite apparent that the extreme diversity illustrated by our Canadian so-called port wines, as tabulated, implies a lack of care in manufacture, or a regrettable ignorance of what constitutes this type of wine.

The high sugar content of most of these samples causes them to resemble Tokay or Malaga. König gives the mean sugar for a large number of samples of Tokay as 9·01 per cent with variation from about 2 to over 20 per cent. For 40 samples of Malaga wine, the mean sugar found was 18·32 per cent the mean alcohol being 12·60 per cent, (= 27·3 proof spirit).

As already pointed out, I cannot see any valid objection to the use of terms such as port, sherry, claret, tokay, &c., by Canadian manufactures, when it is distinctly recognized that the terms in question are employed to designate certain types or species of wine; and proper care is taken to make it clear that the brand offered is a Canadian product, believed to approximate more or less closely to the type of wine denominated port, claret, &c., as the case may be. The words Native, or Canadian, or the place of production, should always be distinctly printed on the label. It is very satisfactory to see that some of our wine makers have adopted special and distinctive names for the brands which they place on the market. This is an example which may well be followed by every manufacturer who feels confidence in his ability to produce a wine of such quality as to merit confidence from the public.



## SESSIONAL PAPER No. 14

A highly objectionable practice indulged in by certain wine merchants, is the false labelling of native wines. The use of labels bearing the names of foreign makers, and places (presumably of production) is apparently nothing else than fraud. Sample No. 31577 is labelled *Fine Old Port, Manuel Borez, Oporto*.

The only preservatives found in these wines are salicylic acid (in 29 samples) and sulphurous acid, or a sulphite in two samples.

This report cannot be taken as exhaustive for the subject with which it deals. The ash of wine, and its mineral constituents are matters of importance, as also the determination of glycerine and other secondary products of fermentation. Other important work necessitated the omission of these estimations; and the report must be regarded merely as a further contribution to the study of Canadian wines.

I beg to recommend its publication as Bulletin No. 160.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



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TABLE I.—NATIVE WINE

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	COST.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
1908.							

DISTRICT OF NOVA SCOTIA—

Feb. 17	Native Wine .	33624	Dillon Bros., Halifax, N.S.	3 bots.	38	Niagara Falls Wine Co., Niagara Falls, Ont.	Sold as Canadian Port.
" 17	" ..	33625	Jas. Scott & Co., Halifax, N.S.	3 "	40	T. Bright & Son, Niagara Falls, Ont.	" " ..
" 17	" ..	33626	T. F. Courtney & Co., Halifax, N.S.	3 "	60	J.S. Hamilton, Brantford, Ont.	" "
" 17	" ..	33627	Kelley & Glassey, Halifax, N.S.	3 "	60	T. G. Bright & Co., Niagara Falls, Ont.	" " ..
" 17	" ..	33628	G. R. Ramey & Co., Halifax, N.S.	3 "	40	Niagara Falls Wine Co., Niagara Falls, Ont.	" " ..
" 17	" ..	33629	A. Monaghan & Co., Halifax, N.S.	3 "	50	Stamford Park Wine Co., Niagara Falls, Ont.	" " ..

DISTRICT OF NEW BRUNSWICK—

Feb. 14	Native Wine .	29655	R. Sullivan & Co., Dock St., St. John, N.B.	2 bots.	2 25	The Stamford Park Wine Factory, Stamford, Ont.	Brands, King Edward, Diana.
" 15	" ..	29656	Foster & Co., Union St., St. John, N.B.	3 "	1 50	Peelee Island Wine & Vineyards, Co., Brantford & Peelee Island.	St. Augustine brand.
" 15	" ..	29657	Thos. H. Haley, Charlotte St., St. John, N.B.	3 "	1 50	T. G. Bright & Co., (Niagara Falls Wine Co.)	Labelled, Niagara Falls Wine, Concord. Bottled by Thos. H. Haley, St. John, N.B.
" 17	" ..	29658	M. & T. McGuire, Water St., St. John, N.B.	3 "	1 50	The Ont. Grape Growing & Wine M'fg. Co., Barnsdale, St. Catherines, Ont.	Bottled from bulk by Vendor.
" 18	" ..	29659	William L. Williams, Prince William St., St. John, N.B.	3 "	1 80	The Niagara Falls Wine Co., T. G. Bright & Co. Proprs, Toronto.	Bottled by Niagara Falls Wine Co., Niagara Falls, Ont. Catawba.
Mar. 7	" ..	29660	Hunt & McDonald, Fredericton, N.B.	3 "	1 80	The Ont. Grape Growing & Wine M'fg. Co., St. Catherines, Ont.	Labelled Claret, The Ont. Grape Growing & Wine M'fg. St. Catherines, Ont.



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RESULTS OF ANALYSIS.

Alcohol, p.c.			Specific gravity of Sample.	Specific gravity of Distillate.	Total Solids.	Resolved Sugar—Dextrose.	Non-sugar Solids.	Acidity.			Original sugar Solids.	Zincyllic Acid.	Remarks and Opinion of the Chief Analyst.
Weight.	Vol.	Proof Spirit.						Total as Tartaric.	Fixed as Tartaric.	Volatile as Acetic.			
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		

R. J. WAUGH, INSPECTOR.

11.08	13.71	24.03	1.0334	0.9827	11.65	9.35	2.30	0.562	0.435	0.102	1.57		Sold as Canadian Port.
9.36	11.61	20.35	1.0424	0.9350	13.21	9.94	3.27	1.012	0.615	0.318	28.66	Present.	
11.23	13.90	24.35	1.0389	0.9825	12.94	10.62	2.32	0.615	0.345	0.216	33.08		Labeled as Canadian Port. but sold as Canadian Port.
11.77	14.56	25.51	1.0330	0.9818	11.19	9.72	1.47	0.630	0.459	0.317	33.26		Sold as Canadian Port.
17.75	21.79	38.18	1.1010	0.9744	7.12	3.94	3.19	0.675	0.540	0.108	39.43		
11.31	13.99	24.52	1.0297	0.9824	9.01	7.86	1.15	0.630	0.480	0.120	30.48	Present.	

J. C. FERGUSON, INSPECTOR.

11.23	13.90	26.36	1.0540	0.9825	16.35	16.02	0.53	0.548	0.450	0.078	38.48		
11.31	13.99	24.52	1.0425	0.9824	13.56	12.86	0.70	0.490	0.345	0.132	35.48		
11.77	14.56	25.51	1.0274	0.9818	8.89	8.52	0.37	0.604	0.450	0.123	32.66		
9.86	12.22	21.42	1.0594	0.9843	17.27	16.34	0.94	0.630	0.480	0.120	36.05		
11.31	15.21	26.66	1.0295	0.9811	9.57	8.90	0.67	0.675	0.435	0.192	31.52		
9.43	11.70	20.50	1.0143	0.9849	5.50	5.13	0.38	0.645	0.465	0.144	23.98		



Date of Collection	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
1908.							
DISTRICT OF QUEBEC—							
Feb.	11 Fine Old Port Wine.	26386	Joseph Prevost, 3 bots. Montmagny.	75		Vinicole, St. Hyacinthe.	
	11 Fine Old Sherry Wine.	26387	" " 3 " 1 00			" "	
"	11 Fine Old Port Wine.	26338	" " 3 " 1 00			" "	
"	11 Ginger Wine..	26389	" " 3 " 1 00			" "	
"	18 Vin Oporto...	26400	A. Toussaint & Cie., 4 " 1 00 Quebec.			Vendors.....	
"	18 Vin Messe St. Nazaire.	26401	" " 4 " 84			"	
"	18 Claret National.	26402	" " 4 " 50			"	
DISTRICT OF ST. HYACINTHE—							
Feb.	13 Native Wine (Red).	27968	J.N.Turcotte, Drummondville.	3 bots.	60	A. Toussaint & Cie, Quebec.	Barrel marked Chateau Richer Wine Co., Quebec. Port X. A. Toussaint & Cie, Fabricant.
"	13 Native Wine..	27969	B. Talbot, Stanfield.	3 " 75		Niagara Falls Wine Co., Niagara Falls, Ont.	
"	14 " ..	27970	J. H. A. Talbot, Arthabaskaville.	3 " 75		" "	
"	18 " ..	27971	L. H. Oliver, Sherbrooke.	3 " 60		T. G. Bright & Co., Toronto.	
"	19 " ..	27972	A. Trudeau, Coaticook.	3 " 1 05		D. McManamy & Co., Sherbrooke.	
"	21 " ..	27973	Nap. Lepine, Magog.	3 " 50		St. David's Wine Growers, Toronto, Ont.	From vessel marked "Port."
"	25 Native Wine (Blanc).	27975	La Cie Vinicole, St. Joseph de St. Hyacinthe.	3 " 25		Vendors.....	
"	25 Native Wine (Claret).	27976	" " 3 " 25			"	
"	25 Native Wine (Port).	27977	" " 3 " 25			"	*
"	25 Native Wine..	27978	Louis Cote, Cavignac Co., Bagot.	3 jars.	free	Vendor . . . . .	
"	25 Native Wine (Blanc.)	27979	Noel Peroti, St. Hughes Co.	3 bots.	50	"	
"	25 Native Wine (Red).	27980	" " 3 " 60.			"	

\* Both bottles broken in carriage.



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## RESULTS OF ANALYSIS.

Alcohol, p.c.			Specific Gravity of Sample.	Specific Gravity of Distillate.	Total Solids.	Residual Solids in Port.	Solids in Port.	Acidity.			On Sand and Sugar Solids.	Sulphuric Acid.	Remarks and Opinion of the Chief Analyst.
Weight.	Vol.	P. of Sp. Gr.						Total as Tartaric.	Fixed as Tartaric.	Vol. as Acetic.			
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
E. BELAND, INSPECTOR.													
10.69	13.24	23.21	1.0214	0.9832	8.90	5.07	5.88	0.42	0.12	0.18	20.4	1.0000	Labelled 'Fine Port Wine.'
11.46	14.18	24.85	0.9952	0.9822	2.55	0.58	1.97	0.82	0.312	0.322	23.50		
9.21	11.41	20.01	1.0002	0.9992	2.65	1.59	1.06	0.00	0.37	0.18	10.61		Same as Fine Port Wine.
6.78	8.45	14.81	1.0932	0.9887	25.22	5.66	10.50	0.150	0.090	0.048	10.22		Ginger Wine.
10.77	13.34	23.37	1.0376	0.9831	12.08	11.34	0.74	0.627	0.40	0.00	32.88		Labelled 'Oporto,' A. Foussaint et Cie.
12.46	15.40	26.99	0.9955	0.9809	3.00	0.57	2.43	1.050	0.975	0.060	20.40		
10.69	13.24	23.21	0.9915	0.9832	1.61	0.20	1.41	0.735	0.337	0.319	21.68		
J. C. ROULEAU, INSPECTOR.													
10.77	13.34	23.37	1.0473	0.9831	14.06	13.65	1.01	0.630	0.357	0.218	35.19		Barrel marked 'Port X.'
12.54	15.49	27.15	1.0215	0.9808	8.46	7.31	1.15	0.547	0.450	0.078	32.39		
12.23	15.12	26.49	1.0283	0.9812	9.85	8.89	0.96	0.615	0.336	0.223	33.35		
11.15	13.81	24.19	1.0263	0.9826	8.17	6.68	1.49	0.600	0.525	0.060	28.98		
12.00	14.84	26.00	1.0282	0.9815	8.88	7.75	1.13	0.533	0.458	0.060	31.75		
7.80	9.70	17.00	1.0747	0.9872	17.38	16.66	0.72	0.660	0.43	0.180	32.26		From a vessel marked 'Port'
7.07	8.80	15.42	0.9968	0.9883	1.51	0.09	1.42	0.503	0.212	0.233	14.23		
7.47	9.29	16.28	0.9972	0.9877	1.92	0.17	1.75	0.975	0.272	0.562	15.11		
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Not received.
12.85	15.86	27.81	1.0182	0.9804	7.17	5.63	1.54	0.712	0.488	0.270	31.33		
11.23	13.90	24.36	1.0158	0.9825	7.18	5.98	1.20	0.502	0.375	0.102	28.44		
10.85	13.43	23.54	1.0102	0.9830	6.52	5.33	1.19	0.712	0.570	0.114	27.03		



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TABLE I.—NATIVE WINE

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
1908.							

DISTRICT OF MONTREAL—

Mar.	3	Native Wine..	31574	G. Morin, 333 Mount Royal ave., Montreal.	3 bots.	60	Vendor .....	Labelled, Muscatel de France, 1898.
"	3	" ..	31575	" " ..	3 " .	60	" .....	Labelled, Oporto de France, 1898.
"	12	" ..	31576	E. Bourget, 331 Mount Royal ave., Montreal.	3 " .	50	" .....	Labelled, Chateau Ramsay.
"	12	" ..	31577	" " ..	3 " .	1 00	" .....	Labelled, Fine Old Port. Manuel Borez. Oporto.
Feb.	17	" ..	32583	Beauvais Lalonde & Co., 482 St. James St., Montreal.	3 " .	75	Niagara Wine Co....	Bottled by Vendor and labelled, Canadian Wine, made from carefully selected hand picked grapes.
"	17	" ..	32584	Joseph Landry, 683 St. James Street, Montreal.	3 " .	75	Godwin, Maloney & Lawrence, Montreal.	Bottled by vendor, and labelled, Pure Canadian Grape Wine.
"	20	" ..	32585	A. Sabourin, 387 Ontario East., Montreal.	3 " .	75	Girardot Wine Co., Ltd., Sandwich, Ont.	Labelled, Native Port.
"	19	" ..	32586	Alphonse Lefaivre, 337 Ontario East, Montreal.	3 " .	90	Vendor .....	Labelled, Vin de Raisin du Canada. Chateau St. Denis Brand.
"	19	" ..	32587	" " ..	3 " .	90	" .....	Labelled, Vin de Raisin du Canada.
"	25	" ..	32588	U. Brunet, St. Ann de Bellevue, P.Q.	3 " .	75	Laporte, Martin & Cie.	.....
"	25	" ..	32596	J. L. Desaulniers, 492 St. Lawrence B., Montreal.	3 " .	75	Vendor .....	Bottled and labelled by Vendor.

DISTRICT OF OTTAWA

Feb.	12	Native Wine..	34132	L. H. Major & Bro. Ottawa.	3 bots.	1 80	J. S. Hamilton & Co., Brantford.	Labeled Pelee Island Wine and Vineyards Co., St. Augustine Reg. at Ottawa.
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—BULLETIN No. 160.

RESULTS OF ANALYSIS.

Alcohol, p.c.			Specific gravity of Sample.	Specific gravity of Distillate.	Total Solids.	Residual Sugar—Dextrose.	Non-sugar Solids.	Acidity.			Original sugar Solids.	Salicylic Acid.	Remarks, and Opinion of the Chief Analyst.
Weight.	Vol.	Proof Spirit.						Total as Tartaric.	Fixed as Tartaric.	Volatile as Acetic.			
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		

J. J. COSTIGAN, INSPECTOR.

14.18	17.48	30.64	1.0039	0.9787	4.69	2.51	2.18	0.502	0.345	0.126	30.87		Contains sulphites, 50, =0.0204 p.c.
10.08	12.49	21.89	1.0342	0.9840	10.95	8.52	2.43	0.562	0.420	0.114	28.18		Labelled, 'Oporto de France, 1898, G. Morin.'
7.67	9.04	16.71	0.9965	0.9874	1.67	0.31	1.36	0.600	0.187	0.330	15.65		
12.46	15.40	26.99	1.0125	0.9809	7.03	6.50	0.73	0.623	0.433	0.152	31.22		Labelled, 'Fine Old Port,' Manuel Barros, Oporto.
11.23	13.90	24.36	1.0311	0.9825	10.65	9.33	1.32	0.607	0.362	0.196	31.79		
11.46	14.18	24.85	1.0279	0.9822	10.21	8.31	1.90	0.697	0.252	0.382	31.23		
8.93	11.08	19.42	1.0519	0.9856	15.10	12.88	2.22	1.035	0.443	0.473	31.74		Labelled, 'Native Port,' Girardot Wine Co.
9.64	11.96	20.96	0.9923	0.9846	1.84	0.08	1.76	0.667	0.382	0.228	19.46		Raisin wine.
8.57	10.65	18.65	1.0055	0.9861	3.34	3.06	0.28	0.660	0.305	0.300	20.20		
12.38	15.30	26.82	1.0194	0.9810	8.20	6.41	1.79	0.630	0.300	0.264	31.17		
7.80	9.70	17.00	1.0723	0.9872	18.95	11.42	7.53	0.892	0.423	0.375	27.02		

—J. A. RICKEY, INSPECTOR.

10.92	13.52	23.70	1.0272	0.9829	9.24	8.08	1.16	0.745	0.430	0.252	29.92		
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TABLE I—NATIVE WINE

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
1908.							
DISTRICT OF OTTAWA							
Feb. 13	Native Wine.	34133	The Ottawa Wine Vaults, Ottawa.	3 "	75	St. David's Wine Growers Co., Toronto.	Vendorsaid sample was from a bbl. Marked Toronto S. native 271 labelled superior port.
" 14	"	34134	Wall & Co., Ottawa.	3 "	75	Bright & Co., Toronto	Labeled native wine.
" 15	"	34135	H. Bigras, Ottawa.	3 "	75	Niagara Falls Wine Co.	
" 20	"	34136	McDermott & McCarthy, Prescott.	3 "	1 80	St. David's Wine Growers Co.	
" 21	"	34137	Jos. Lavigne, Ottawa	3 "	75	Ottawa Wine Vaults, Ottawa.	Bottled by Vendor from bbl. Vendor said sample was manufactured by St. David's Wine Growers Co., Toronto.
DISTRICT OF KINGSTON							
Feb. 11	Native Wine.	33078	G. Thompson, Princess St., Kingston	3 bots.	1 50	St. David's Wine Growers Co., Toronto.	
" 11	"	33079	A. Tyo, Princess St., Kingston.	3 "	1 50	" "	
" 11	"	33080	B. Lawlor, Wellington St., Kingston.	3 "	1 50	St. Augustine, Brantford & Pelee Island, Ont.	
" 12	"	33081	Wesley Bullen, Front St., Belleville.	3 "	1 25	" "	
" 12	"	33082	J. Hunter, Ontario St., Port Hope.	3 "	1 20	T. G. Bright, Toronto	
" 13	"	33083	T. J. R. Mitchell, Hunter St., Peterboro'.	3 "	1 50	Vendor.	
DISTRICT OF TORONTO							
Feb. 24	Native Wine.	35050	Adam Balentine & Bro., Hamilton.	3 bots.	75	Balfour & McLaren, Hamilton.	Labeled native wine.
" 26	"	35051	The Ontario Grape Growing Mfg. Co., St. Catherines.	3 "	1 50	Vendors.....	Labeled Golden Diana.
" 26	"	35052	E. G. Brown, St. John's West.	3 "	75	Vendor .....	
" 28	"	35054	Stamford Park Wine Co., Stamford.	3 "	75	Vendors .....	Labeled native port wine.



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—BULLETIN No. 160.

## RESULTS OF ANALYSIS.

Alcohol, p.c.			Specific gravity of Sample.	Specific gravity of Distillate.	Total Solids.	Residual Sugar Dextrose.	Non-Sugar Solids.	Acidity.			Original sugar % Solids.	Salicylic Acid.	Remarks and Opinion of the Chief Analyst.
Weight.	Vol.	Proof Spirit.						Total as Tartaric.	Fixed as Tartaric.	Volatile as Acetic.			
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
7.53	9.37	16.42	1.0743	0.9876	19.88	18.61	1.27	0.712	0.468	0.195	33.67		Btl. Labeled 'Superior Port'
11.46	14.18	24.85	1.0504	0.9822	12.81	11.29	1.52	0.698	0.510	0.126	34.21		
12.23	15.12	26.49	1.0246	0.9812	9.39	8.94	0.96	0.645	0.364	0.225	33.40		
8.07	10.03	17.58	1.0715	0.9868	18.40	17.57	0.83	0.728	0.389	0.279	33.71		Labeled 'Port'—St. David's Co., Toronto.
7.53	9.37	16.42	1.0754	0.9876	19.27	18.00	1.27	0.720	0.396	0.259	33.06	Doubtful	

## —J. HOGAN, INSPECTOR.

8.71	10.82	18.96	1.0618	0.9859	17.60	16.58	1.02	0.787	0.645	0.114	34.00	Present.	Labeled 'Port'—St. David's Wine Co.
8.36	10.38	18.20	1.0722	0.9864	18.33	16.15	2.18	0.675	0.487	0.150	32.87		
7.53	9.37	16.42	1.0607	0.9876	13.76	13.94	2.82	0.997	0.547	0.360	29.00		
12.08	14.93	26.17	1.0370	0.9814	12.74	11.34	1.40	0.690	0.465	0.180	35.50		
13.54	16.70	29.27	1.0119	0.9795	7.26	5.88	1.38	0.562	0.540	0.018	32.96		Contains sulphites—SO <sup>2</sup> —0.0075 p.c.
11.77	14.56	25.51	1.0464	0.9818	14.37	13.30	1.07	0.562	0.420	0.114	36.84		

## H. J. DAGER, INSPECTOR.

12.15	15.02	26.33	1.0167	0.9813	7.91	5.55	2.26	0.960	0.877	0.066	29.85		
10.38	12.87	22.55	1.0462	0.9836	13.48	12.81	0.67	0.697	0.562	0.108	33.57	Present.	
12.54	15.49	27.15	1.0324	0.9808	12.20	10.61	1.59	0.653	0.255	0.319	35.69		
10.69	13.24	23.21	1.0314	0.9832	10.96	9.38	1.58	0.765	0.503	0.210	30.76	Present.	Labeled 'Native Port' Wine.



9-10 EDWARD VII., A. 1910

TABLE I —NATIVE WINE

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report
				Quantity.	Cents.		
1908.							

DISTRICT OF TORONTO

Feb. 28	Native Wine..	35055	Niagara Falls Wine Co., Niagara Falls South.	3 "	75	Vendors.	Labeled 'Diamond' T. G. Bright & Co.
Mar. 4	" ..	35056	J. W. Lee & Co., Toronto.	3 "	60	"	.....
" 5	" ..	35057	R. L. Haskins, Hamilton.	3 "	60	Vendor.....	.....
" 5	" ..	35058	Jas. Osborne & Sons, Hamilton.	3 "	1 20	Haskins Wine Co...	Purchased in bulk and bottled by Vendor
" 5	" ..	35059	Haskins Wine Co., Hamilton.	3 "	75	Vendors ....	Labeled native port
" 6	" ..	35060	John Mather, Toronto.	3 "	75	A. J. Bright & Co., Niagara Falls.	Labeled pure Canadian grape wine bottled by Vendor.
" 6	" ..	35061	D. G. Stewart & Co., Toronto.	3 "	1 50	Pelee Island Wine and Vine Yards Co., Ltd.	Bottled by manufacturers.

DISTRICT OF LONDON—

Feb. 3	Native Wine..	30467	Thomas Quirk, Stratford.	3 pts.	50	Haskin Wine Co ....	.....
" 13	" ..	30471	Walsh Bros., Stratford.	.....	.....	T. G. Bright & Co., Niagara Falls.	.....
" 14	" ..	30475	William Dawson, Seaforth.	1 bot.	50	J. S. Hamilton, President, Pelee Island Assoc. Co., Brantford.	.....
" 21	" ..	30478	C. H. Pugh, Clinton, Ont.	1½ qt.	60	Joseph Ratinbury, Clinton.	.....
" 25	" ..	30483	Fred Sharp, St. Marys.	1 bot.	35	Niagara Wine Co., Niagara Falls.	.....
" 29	" ..	30492	Asson Ringler, Listowell.	1 qt.	50	St. Davids Wine Co.	.....

DISTRICT OF WINDSOR—

Feb. 18	Native Wine..	34504	John A. Campbell..	3 qts.	1 50	N. Guindon, Sandwich.	.....
" 19	" ..	34509	F. A. Robert, Chatham.	3 bots.	1 50	Stamford Park Wine Co.	.....
" 19	" ..	34510	Taylor & McKay, Chatham.	3 "	1 50	Haskins & Co., Hamilton.	.....
Mar. 11	" ..	34521	Ed. Shea, Chatham..	3 "	75	Stamford Park Wine Co., Niagara Falls.	.....
" 11	" ..	34522	Hockin Bros., Chatham.	3 "	1 20	J. S. Hamilton, Pelee Island.	.....
April 9	" ..	34524	J. H. Price, St. Thomas.	3 "	1 50	Niagara Falls Wine Co., (T. J. Bright & Co.)	.....



SESSIONAL PAPER No. 14  
—BULLETIN 160.

RESULTS OF ANALYSIS.													Remarks and Opinion of the Chief Analyst.
Alcohol, p.c.			Specific gravity of Sample.	Specific gravity of Distillate.	Total Solids.	Residual Sugar— Dextrose.	Non-sugar Solids.	Acidity.			Original sugar Solids.	Salicylic Acid.	
Weight.	Vol.	Proof Spirit.						Total as Tartaric.	Fixed as Tartaric.	Volatile as Acetic.			
p. c.	p. c.	p. c.						p. c.	p. c.	p. c.			

—H. J. DAGER, INSPECTOR—*Concluded.*

12·38	15·30	26·82	1·0406	0·9810	13·52	11·76	1·76	0·675	0·398	0·222	36·52		
10·15	12·58	22·06	1·0495	0·9839	14·61	13·41	1·20	0·728	0·373	0·284	33·71	Present.	Labeled 'Port'— St. David's Co., Toronto.
9·43	11·70	20·50	1·0385	0·9849	12·34	11·18	1·16	0·660	0·315	0·276	30·04		
8·79	10·91	19·11	1·0627	0·9858	17·00	16·59	0·41	0·525	0·360	0·126	34·17	Present.	Labeled 'Extra Qual- ity Finest Native Port.'
7·73	9·62	16·86	1·0140	0·9873	7·74	6·51	1·23	0·682	0·368	0·252	21·97	.....	Labelled 'Native Port' The Haskins Wine Co. Hamllton.
12·31	15·21	26·66	1·0291	0·9811	10·18	8·87	1·31	0·525	0·575	0·156	33·49		
11·85	14·65	25·67	1·0341	0·9817	11·38	10·26	1·12	0·705	0·372	0·266	33·96		

T. KIDD, INSPECTOR.

10·00	12·40	21·73	1·0386	0·9841	11·36	10·76	0·60	0·487	0·375	0·090	30·76	Present.	
11·54	14·27	25·01	1·0321	0·9821	11·43	8·74	1·69	0·562	0·435	0·102	31·82	.....	
10·77	13·34	23·37	1·0426	0·9831	13·58	11·37	2·21	0·592	0·412	0·144	32·91	.....	Labelled 'St. Augus- tine.'
12·38	15·30	26·82	1·0309	0·9810	11·70	8·49	3·21	0·562	0·461	0·081	33·25	.....	
11·62	14·37	25·18	1·0337	0·9820	11·65	9·52	2·13	0·525	0·450	0·060	32·76	.....	
7·60	9·45	16·57	1·0756	0·9875	20·41	17·74	2·67	1·026	0·457	0·375	32·94	Present.	

J. TALBOT, INSPECTOR.

8·57	10·65	18·65	1·0656	0·9861	17·77	15·92	1·85	0·900	0·525	0·300	33·06	.....	
9·93	12·31	21·57	1·0359	0·9842	11·70	10·11	1·59	0·833	0·357	0·381	29·97	Present.	Labelled 'Fine Old Native Port.'
12·23	15·12	26·49	1·0251	0·9812	8·97	7·27	1·70	0·652	0·465	0·150	31·73	.....	Labelled 'Fine Old Port.'
10·69	13·24	23·31	1·0324	0·9832	11·16	9·69	1·47	0·607	0·435	0·138	31·67	Present.	
10·77	13·34	23·37	1·0460	0·9831	14·31	13·43	0·88	0·525	0·450	0·060	34·97	.....	
11·85	14·65	25·67	1·0400	0·9817	13·08	11·13	1·95	0·810	0·480	0·264	34·83	.....	Labelled 'Fine Old Port Wine.'



9-10 EDWARD VII., A. 1910

TABLE I—NATIVE WINE

Date of Collection.	Nature of Sample.	No. of Samples.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
1908.							

DISTRICT OF MANITOBA—

Feb. 13	Native Wine..	25888	The Geo. Lindsay Co., 3 bots. 1 50 Winnipeg, Man.			The Stamford Park Wine Co., Niagara Falls, Ont.	
" 13	"	25889	The Glasgow Liquor House (Ripstein & Co.) 706 Main St., Winnipeg, Man.	3	" 1 05	Not given.....	
" 13	"	25890	T. D. Cavanagh, 3 Winnipeg, Man.	"	" 1 05	J. W. Lee, Toronto, Ont.	
" 14	"	25891	The City Liquor Store, Graham & Kidd, 314 McDermott St., Winnipeg, Man.	3	" 1 50	Not given.....	
" 14	"	25892	Paul Sala, Winnipeg, Man.	3	" 1 20	T. J. Bright, Niagara Falls, Ont.	Sold as native wine labelled Port.
" 14	"	25893	J. Fisher, 250 Main St., Winnipeg, M.	3	" 1 35	St Davids Wine Growers Co., 60 Atlantic Ave., Toronto, Ont.	

DISTRICT OF CALGARY—

Feb. 25	Native Wine..	28907	Moodie Liquor Co., 3 pts. 30 Calgary.			Stamford Park Wine Co., Niagara Falls, Ont.	
" 25	"	28908	J. Diamond, Calgary 3	"	30	St. David Wine Growers Co., Toronto, Ont.	
" 25	"	28909	Great West Liquor Co., Ltd., Calgary.	3	" 30	J. W. Lee & Co., Toronto, Ont.	
" 25	"	28910	Hudson Bay Co., Calgary.	3	" 30	T. G. Bright & Co., Niagara Falls, Ont.	
" 28	"	28911	J. E. Houson, Medicine Hat.	3	" 30	" "	
" 28	"	28912	H. E. Whiffin, Medicine Hat.	3	" 30	Not known.....	

DISTRICT OF VANCOUVER—

Feb. 19	Native Wine..	34238	Gold Seal Liquor Co., Pender and Vancouver.	3 pts.	60	J. W. Lee & Co., Toronto.	St. Elmo Brand...
" 19	"	34239	Benwell, Peart & Co., Cambie St., Vancouver.	3	" 75	St. David Wine Co., Toronto.	S. Port Brand....
" 19	"	34240	W. Urquhart, Cordova St., Vancouver.	3	" 50	Niagara Falls Wine Co.	



SESSIONAL PAPER No. 14  
—BULLETIN No. 160.

RESULTS OF ANALYSIS..													Remarks and Opinion of the Chief Analyst.
Alcohol, p.c.			Specific gravity of Sample.	Specific gravity of Distillate.	Total Solids.	Residual Sugar Dextrose.	Non-sugar Solids.	Acidity.			Original sugar Solids.	Salicylic Acid.	
Weight.	Vol.	Proof Spirit.						Total as Tartaric.	Fixed as Tartaric.	Volatile as Acetic.			
p.c.	p.c.	p.c.						p. c.	p. c.	p. c.			

A. C. LARIVIERE, INSPECTOR.

12.23	15.12	26.49	1.0212	0.9812	8.36	7.53	0.83	0.780	0.540	0.192	31.99	Present.	
9.50	11.79	20.65	1.0437	0.9848	12.68	11.71	0.97	0.825	0.483	0.273	30.71	"	.
7.80	9.70	17.00	1.0742	0.9872	19.55	18.81	0.74	0.657	0.439	0.174	34.41	"	.
9.57	11.87	20.81	1.0425	0.9847	13.05	12.19	0.86	0.720	0.690	0.024	31.33	"	.
11.46	14.18	24.85	1.0324	0.9822	9.72	9.05	0.67	0.533	0.384	0.119	31.97		Labelled 'Port.'
7.40	9.21	16.14	1.0923	0.9878	21.28	20.88	0.40	0.660	0.425	0.188	35.68	Present.	

R. W. FLETCHER, INSPECTOR.

11.46	14.18	24.85	1.0264	0.9822	10.34	7.64	2.70	0.607	0.517	0.072	30.56	Present.	
8.57	10.65	18.65	1.0647	0.9861	18.23	15.09	3.14	0.787	0.480	0.246	32.23		
7.40	9.21	16.14	1.0733	0.9878	20.13	16.38	3.75	0.731	0.397	0.267	31.18		
7.13	8.88	15.56	1.0399	0.9882	13.36	10.29	3.07	0.607	0.480	0.102	24.55		
11.08	13.71	24.03	1.0283	0.9827	10.50	6.93	3.57	0.727	0.592	0.108	29.09		
8.43	10.47	18.35	1.0596	0.9863	17.35	14.32	3.03	0.802	0.385	0.237	27.26	Present.	

J. F. POWER, INSPECTOR.

8.50	10.56	18.50	1.0675	0.9862	19.00	15.18	3.82	0.885	0.480	0.324	32.18	Present.	
8.57	10.65	18.65	1.0660	0.9861	17.88	14.50	3.38	0.810	0.450	0.288	31.64		Brand 'S. Port.'
12.46	15.40	26.99	1.0255	0.9809	9.90	7.87	2.03	0.863	0.467	0.317	32.79		



9-10 EDWARD VII., A. 1910  
TABLE 1—NATIVE WINE

Date of Collection.	Nature of Sample.	No. of Samples.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
1908.							

DISTRICT OF VANCOUVER—

Feb. 19	Native Wine..	34241	F. E. Hose Co., Westminster Ave., Vancouver.	3 "	50	Pelee Island Wine & Vintage Co.	
" 20	"	34242	Hudson Bay Co., Water St., Vancouver.	3 "	50	Niagara Falls Wine Co.	
" 20	"	34243	Pitter & Leiser, Water St. Vancouver.	3 "	30	T. G. Bright & Co., Niagara.	

DISTRICT OF VICTORIA—

Feb. 20	Native Wine..	34849	Saunders Grocery Co., Ltd., Victoria, B.C.	3 qts.	1 00	J. S. Hamilton & Co., Brantford, Ont.	Bottled on premises of Vendor.
" 21	"	34850	West End Grocery Co., Ltd., Victoria, B.C.	3 "	1 05	" " "	" " "
" 21	"	34851	Fred Carne, Victoria, B.C.	3 "	1 00	St. David's Wine Growers, Toronto, Ont.	" " "
" 22	"	34860	Dixie H. Ross & Co., Ltd., Victoria, B.C.	3 "	1 00	G. Bright & Co., Niagara Falls.	" " "
" 22	"	34861	Fell & Co., Ltd., Victoria, B.C.	3 "	1 00	J. S. Hamilton, Brantford, Ont.	" " "
" 22	"	34862	Windsor Grocery Co., Victoria, B.C.	3 "	1 05	Lawrance A. Wilson & Co., Ltd., Montreal, Que.	" " "



SESSIONAL PAPER No. 14  
—BULLETIN No. 160.

RESULTS OF ANALYSIS.													Remarks and Opinion of the Chief Analyst.
Alcohol, p.c.			Specific gravity of Sample.	Specific grevity of Destillate.	Total Solids.	Residual Sugar— Dextrose.	Non-sugar Solids.	Acidity.			Original sugar Solids.	Salicylic Acid.	
Weight.	Vol.	Proof Spirit.						Total as Tartaric.	Fixed as Tartaric.	Volatile as Acetic.			
p.c.	p.c.	p.c.						p. c.	p. c.	p. c.			

J. F. POWER, INSPECTOR—*Concluded.*

8.93	11.08	19.42	1.0555	0.9856	15.51	8.85	6.66	0.690	0.393	0.238	26.71		
10.08	12.49	21.89	1.0525	0.9840	15.49	12.24	3.25	0.592	0.375	0.174	32.40	Present.	
11.69	14.46	25.34	1.0317	0.9819	11.10	9.87	1.23	0.735	0.504	0.185	33.25		

D. O. SULLIVAN, INSPECTOR.

9.57	11.87	20.81	1.0501	0.9847	14.01	13.02	0.91	0.660	0.405	0.204	32.16		Labelled 'Native Port.'
12.54	15.49	27.15	1.0430	0.9808	14.36	12.96	1.46	0.525	0.375	0.120	37.98		Labelled 'Pure Native Port.'
7.60	9.45	16.57	1.0762	0.9875	20.51	19.00	1.51	0.750	0.398	0.282	34.20	Present.	Labelled 'Native Port.'
12.23	15.12	26.49	1.0308	0.9812	10.41	8.69	1.72	0.637	0.495	0.114	33.15		"
9.71	12.05	21.11	1.0496	0.9845	14.96	12.12	2.54	0.660	0.427	0.186	31.84	Present.	
12.46	15.40	26.99	1.0466	0.9809	14.10	12.88	1.22	0.765	0.471	0.235	37.80		Labelled 'Niagara Port Wine.'



TABLE II.—NATIVE WINES, SOLD AS 'PORT'—BULLETIN No. 160.

RESULTS OF ANALYSIS.														
Departmental Number.	Alcohol, p.c.			Specific Gravity of Sample.	Specific Gravity of Distillate.	Total Solids.	Residual Sugar-Dextrose.	Non-sugar Solids.	Acidity.			Original sugar Solids.	Salicylic Acid.	Remarks, and Opinion of the Chief Analyst.
	Weight.	Volume.	Proof Spirit.						Total as Tartaric.	Fixed as Tartaric.	Volatile as Acetic.			
33624.....	11.08	13.71	24.03	1.0334	0.9827	11.65	9.35	2.30	0.562	0.435	0.102	31.51	.....	Present.
33625.....	9.36	11.61	20.35	1.0424	0.9350	13.21	9.94	3.27	1.012	0.615	0.318	28.66	.....	
33626 (St. Augustine).....	11.23	13.90	24.36	1.0389	0.9825	12.94	10.62	2.32	0.615	0.345	0.216	33.08	.....	
33627.....	11.77	14.56	25.51	1.0330	0.9818	11.19	9.72	1.47	0.630	0.459	0.317	33.26	.....	
33628.....	17.75	21.79	38.18	1.0109	0.9744	7.12	3.94	3.18	0.675	0.540	0.108	39.44	.....	Present.
33629.....	11.31	13.99	24.52	1.0297	0.9824	9.01	7.86	1.15	0.630	0.480	0.120	30.48	.....	
26386 Labelled.....	10.69	13.24	23.21	1.0214	0.9832	8.90	5.07	3.83	0.630	0.420	0.168	26.45	.....	
26388.....	9.21	11.44	20.04	1.0002	0.9852	2.65	1.59	1.06	0.600	0.375	0.180	20.01	.....	
26400 Labelled.....	10.77	13.34	23.37	1.0376	0.9831	12.08	11.34	0.74	0.622	0.540	0.066	32.88	.....	.....
27968.....	10.77	13.34	23.37	1.0473	0.9831	14.66	13.65	1.01	0.630	0.357	0.218	35.19	.....	
27973.....	7.80	9.70	17.00	1.0747	0.9572	17.38	16.66	0.72	0.660	0.435	0.180	32.26	.....	
31575 Labelled.....	10.08	12.49	21.89	1.0342	0.9840	10.95	8.52	2.43	0.562	0.420	0.114	28.68	.....	
31577.....	12.46	15.40	26.99	1.0125	0.9809	7.03	6.30	0.73	0.623	0.433	0.152	31.22	.....	.....
32585.....	8.93	11.08	19.42	1.0519	0.9856	15.10	12.88	2.22	1.035	0.443	0.473	30.74	.....	
34133.....	7.53	9.37	16.42	1.0749	0.9876	19.88	18.61	1.27	0.712	0.468	0.195	33.67	.....	
34136 Labelled.....	8.07	10.03	17.58	1.0715	0.9868	18.40	17.57	0.83	0.728	0.380	0.279	33.71	.....	
33078.....	8.71	10.82	18.96	1.0618	0.9859	17.60	16.58	1.02	0.787	0.645	0.114	34.00	Present.	.....
35054.....	10.69	13.24	23.21	1.0314	0.9832	10.96	9.38	1.58	0.765	0.503	0.210	30.76	.....	
35056.....	10.15	12.55	22.06	1.0495	0.9839	14.61	13.41	1.20	0.728	0.373	0.284	33.71	.....	
35058.....	8.79	10.91	19.11	1.0027	0.9858	17.00	16.59	0.41	0.525	0.360	0.126	34.17	.....	
35059.....	7.93	9.62	16.86	1.0140	0.9873	7.74	6.51	1.23	0.682	0.368	0.252	21.97	.....	Present.
34509.....	9.93	12.31	21.57	1.0359	0.9842	11.70	10.11	1.59	0.833	0.357	0.381	29.97	.....	
34510.....	12.23	15.12	26.49	1.0251	0.9812	8.97	7.27	1.70	0.652	0.465	0.150	31.73	.....	
34524.....	11.85	14.65	25.67	1.0400	0.9817	13.08	11.13	1.95	0.810	0.480	0.264	34.83	.....	
25892.....	11.46	14.18	24.85	1.0324	0.9822	9.72	9.05	0.67	0.533	0.384	0.119	31.97	.....	Present.
34239.....	8.57	10.65	18.65	1.0060	0.9861	17.88	14.50	3.38	0.810	0.450	0.288	31.64	.....	
34849 Labelled.....	9.57	11.87	20.81	1.0501	0.9847	14.01	13.02	0.99	0.660	0.405	0.204	32.16	.....	



SESSIONAL PAPER No. 14

34850	"	12.54	15.49	27.15	1.0430	0.9808	14.36	12.90	1.46	0.525	0.375	0.120	37.98	Present.
34851	"	7.60	9.45	16.57	1.0762	0.9875	20.51	19.00	1.51	0.750	0.398	0.282	34.20	.....
34850	"	12.23	15.12	26.49	1.0308	0.9812	10.41	8.69	1.75	0.637	0.495	0.114	33.15	.....
34852	"	12.46	15.40	26.99	1.0466	0.9809	14.10	12.88	1.22	0.765	0.471	0.235	37.80	Present.
Maximum		17.75	21.79	38.18	1.0762	0.9744	24.29	19.00	3.83	1.035	0.645	0.473	39.44	.....
Minimum		7.53	9.37	16.42	1.0002	0.9876	2.65	1.59	0.41	0.525	0.345	0.066	20.01	.....
Spanish Port.....		17.13	21.07	36.90	1.0047	0.9746	7.294	5.260	2.034	0.427	0.285	0.114	39.52	Thudichurn & Dupré— 'Treatise on Wine'— Macmillan & Co., 1872. op. cit.
Cheap Port Portugal.		16.48	20.24	35.47	1.0039	0.9751	6.727	4.220	2.507	0.414	0.268	0.119	37.18	.....
Port Wine.....		16.18	19.80	31.85	1.0088	0.9761	8.250	6.040	2.210	0.420	0.385	0.085	38.40	Mean of 15 analyses. König. 'Chemie der Menschlichen Nahr- ungsund Genussmit- tel,' Band I, p. 1322.







## APPENDIX K.

## BULLETIN No. 161—FERTILIZERS AS SOLD.

OTTAWA, September 3, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I have the honour to transmit a report upon 119 samples of Agricultural Fertilizers collected by our inspectors in the various districts of Canada.

The usual difficulties have been found in identifying these fertilizers with registered brands. While much might be done by greater care on the part of dealers who handle these goods, and of our inspectors who purchase them for analysis, I am convinced that until a more rational method of registration is enforced, the difficulty of identifying the article as sold will continue. This state of things is quite evidently disadvantageous to the purchaser of the fertilizer; and practically deprives him of legal redress.

Fifteen samples appear to represent unregistered brands. Six others are provisionally identified with registered standards, but the identification is doubtfully correct. Ninety-seven samples are apparently equal in value to the standard sample submitted under Sec. 3 of the Fertilizers Act, or to the guaranteed value, or within reasonable limits of such guarantee.

Three (3) samples show decided deficiency in fertilizing contents, not equalized in values by excess in other contents. These samples are:—

No. 31282	deficiency of about 3 per cent potash
29719	“ “ “ 2 “ “ “
34300	“ “ “ 2½ “ “ phosphoric acid

In an appendix to this Bulletin I have arranged 18 samples of Standard Fertilizers, as placed on sale this year, but forwarded to the department too late to appear in the regular standard list, as printed in Bulletin No. 151, of April last.

I would respectfully draw attention to the need of improvement in our Fertilizer legislation; and I trust that the Bill which received first and second readings, in the Senate, in July last, will become law, and go far to render our check upon fertilizers as sold in Canada, a real safe-guarding of the purchaser.

I beg to recommend the publication of this report as Bulletin No. 161.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



9-10 EDWARD VII., A. 1910

FERTILIZERS AS SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	Register Number.
1908.						

DISTRICT OF NOVA SCOTIA

May 15	Pacific Potato Special.	33675	E. M. Walker, Dartmouth, N.S.	American Agr. Chem. Co., New York.		2161
" 15	Imperial Superphosphate.	33676	A. L. Melvin & Co., Halifax, N.S.	Provincial Chemical Fertilizer Co., St. John, N.B.		2209
" 15	Ceres Brand .....	33677	Halifax Seed Store, Halifax, N.S.	Nova Scotia Fertilizer Co., Halifax, N.S.		2180
" 18	Basic Slag .....	33678	G. F. Roy, Kentville, N.S.	Leeds Phosphate Works, Leeds, England.		2227
" 18	Swift's Lowell Potato Manure.	33679	G. F. Roy, Kentville, N.S.	Swift's Lowell Fertilizer Co., Lowell, Mass.		2128
" 19	Six Per Cent Brand Potato Fertilizer	33680	Burgess & Co., Wolfville, N.S.	Bowker Fertilizer Co., Boston, Mass.		2200
" 19	Complete Manure for Potatoes, Roots and Vegetables.	33681	R. H. Foster, Wolfville, N.S.	Essex Fertilizer Co., Boston, Mass.		2140
" 19	Bradley's Fine Ground Bone.	33682	E. E. Archibald, Wolfville, N.S.	American Agr. Chem. Co., New York.		2146
" 21	Storckbridge Special Complete Manure.	33683	J. H. Kent & Co., Truro, N.S.	Bowker Fertilizer Co., Boston, Mass.		2191
" 21	Potato Manure...	33684	E. E. McNutt, Truro, N.S.	Pidgeon Fertilizer Co., Windsor, N.S.		2120

DISTRICT OF PRINCE EDWARD ISLAND

May 14	Animal Brand ...	31281	A. Horn & Co., Charlottetown.	Swift's Lowell Fertilizer Co., Boston, Mass.		2127
" 14	Potato Phosphate.	31282	A. Horn & Co., Charlottetown.	" " ..		2129
" 18	Ceres Superphosphate.	31283	R. E. Mutch, Charlottetown	Nova Scotia Fertilizer Co., Halifax, N.S.		2180
" 18	Potato Phosphate.	31284	R. E. Mutch, Charlottetown.	" " ..		2181
" 18	Ground Bone .....	31285	Pool & Thompson, Montague Bridge.	Swift's Lowell Fertilizer Co., Boston, Mass.		2132



SESSIONAL PAPER No. 14  
—BULLETIN No. 161.

Samples.	RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
	Nitrogen, p. c.		Phosphoric Acid, p.c.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in Water.	Reverted or Citrate Soluble.	Insoluble.	Total.	Total available.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.	

—R. J. WAUGH, INSPECTOR.

Guarantee	2.06	2.50	5.00	3.00	2.00	10.00	8.00	3.00	...	19.90	
Standard Bull. 151.	2.27	2.75	5.62	3.21	2.82	11.65	8.83	3.47	11.10	22.31	
As found	1.79	2.19	6.85	2.89	1.24	10.98	9.74	2.97	14.95	20.83	Up to guarantee.
Guarantee	2.80	3.40	...	...	...	...	10.30	2.40	...	23.25	
Standard Bull. 151.	2.52	3.06	6.75	3.18	2.12	12.05	9.93	...	8.90	22.86	
As found	1.53	1.85	7.80	2.18	1.02	11.40	10.38	1.89	12.85	19.60	Slightly below guarantee.
Guarantee	1.65	2.00	...	...	2.00	9.00	7.00	2.00	...	15.91	
Standard Bull. 151.	1.75	2.13	7.22	1.38	1.80	10.40	8.60	4.61	9.90	21.28	
As found	1.96	2.38	7.33	1.49	0.76	9.58	8.82	2.70	10.00	20.03	Up to guarantee.
Guarantee	...	...	...	...	...	...	...	...	...	...	
Standard Bull. 151.	...	...	...	13.25	7.00	20.35	13.35	...	0.55	16.79	
As found	...	...	...	12.00	5.30	17.30	12.00	...	...	14.79	Slightly below standard
Guarantee	1.65	2.09	...	...	...	8.00	7.00	4.00	...	17.61	sample.
Standard Bull. 151.	1.54	1.87	5.10	3.75	0.62	9.47	8.85	4.44	6.35	20.11	
As found	1.54	1.87	4.50	2.63	0.77	7.90	7.13	4.09	10.15	17.85	Up to guarantee.
Guarantee	0.82	1.00	...	...	...	7.00	6.00	6.00	...	15.69	
Standard Bull. 151.	0.84	1.02	5.70	1.85	1.45	9.00	7.55	6.14	10.15	18.31	
As found	0.85	1.04	4.88	2.54	1.46	8.88	7.42	6.23	9.50	18.18	
Guarantee	3.29	4.00	...	...	1.00	7.00	6.00	10.00	...	28.09	
Standard Bull. 151.	3.61	4.39	4.42	2.75	2.25	9.42	7.17	10.35	6.30	31.63	
As found	3.15	3.71	4.18	3.27	0.90	8.35	7.45	10.11	6.15	29.70	
Guarantee	2.50	3.00	...	...	...	21.23	...	...	...	...	
Standard Bull. 151.	2.91	3.54	...	19.50	7.00	26.50	19.50	...	5.75	33.44	
As found	2.42	2.94	...	17.70	9.40	27.10	17.70	...	9.70	30.42	Slightly below standard
Guarantee	3.29	4.00	...	...	...	7.00	6.00	10.00	...	28.09	sample.
Standard Bull. 151.	3.11	3.77	5.37	1.88	1.25	8.50	7.25	9.69	7.45	29.15	
As found	2.88	3.50	5.25	1.90	1.20	8.35	7.15	10.13	10.35	28.67	Up to guarantee.
Guarantee	1.65	2.00	...	...	...	9.00	7.00	5.00	...	18.91	
Standard Bull. 151.	2.03	2.45	5.80	0.35	1.55	7.70	6.15	5.31	9.10	20.02	
As found	1.50	1.82	6.15	1.21	0.44	7.80	7.36	5.07	11.90	19.01	

—T. MOORE, INSPECTOR.

Guarantee	2.47	3.00	...	...	...	10.00	8.00	4.00	...	21.80	
Standard Bull. 151.	2.55	3.09	5.32	4.48	0.95	10.75	9.80	4.19	9.30	24.46	
As found	2.14	2.60	7.20	2.13	1.67	11.00	9.33	3.91	11.75	22.67	Up to guarantee.
Guarantee	2.47	3.00	...	...	...	9.00	8.00	6.00	...	23.50	
Standard Bull. 151.	2.60	2.96	4.80	5.32	0.95	11.07	10.12	6.56	6.40	27.30	
As found	1.54	1.87	6.45	2.57	1.23	10.25	9.02	3.17	11.40	19.34	Below guarantee in
Guarantee	1.65	2.00	...	...	2.00	9.00	7.00	2.00	...	15.91	potash.
Standard Bull. 151.	1.75	2.13	7.22	1.38	1.80	10.40	8.60	4.61	9.90	21.28	
As found	3.15	3.82	7.92	1.36	0.62	9.90	9.28	2.78	14.25	24.68	Up to guarantee.
Guarantee	1.65	2.00	...	...	2.00	9.00	7.00	4.00	...	17.91	
Standard Bull. 151.	1.68	2.04	8.75	...	1.30	10.02	8.72	4.82	9.70	21.42	
As found	2.80	3.40	4.15	0.85	0.50	5.46	5.00	7.10	15.90	22.77	
Guarantee	2.47	3.00	...	...	...	25.00	...	...	...	...	
Standard Bull. 151.	2.63	3.19	...	17.50	7.25	24.75	17.50	...	4.50	29.84	
As found	2.42	2.94	...	14.45	12.55	27.00	14.45	...	2.35	27.40	Slightly below standard
											sample in citrate solu- ble acid.



9-10 EDWARD VII., A. 1910  
FERTILIZERS AS SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Register Number.
1908.						

DISTRICT OF PRINCE EDWARD ISLAND.

May	20	Potato Manure. . .	31286	Pool & Thompson, Montague Bridge.	Swift's Lowell Fertilizer Co., Boston, Mass.	2128
"	20	Bone Fertilizer. . .	31287	" " . .	" " . . . . .	2126
"	26	Thomas Phosphate Powder.	31288	R. J. Holman & Co., Summerside.	Dearborn & Co., St. John.	
"	28	Fertilizer Tankage	31289	A. Dewar, Charlottetown.	Laing Packing & Provision Co., Ltd., Montreal.	2116
"	28	Superphosphate . . .	31290	Auld Bros., Charlottetown.	Thos. Vickers & Sons, Manchester.	

DISTRICT OF NEW BRUNSWICK

May	12	Reid's Superphosphate of Lime.	29712	Thos. Reid, Parish of Simonds, St. John, Co., N.B.	Thos Reid, Parish of Simonds, St. John Co., N.B.	2189
"	14	Swift's Lowell Potato Phosphate.	29713	P. Nase & Son, Ltd, 2-14 Main St., St. John, N.B.	Swift's Lowell Fertilizer Co., Boston, Mass.	2129
	15	Bowker's Potato and Vegetable Phosphate.	29714	D. J. Seely & Son, Water St., St. John, N.B.	Bowker Fertilizer Co., Boston, Mass.	2194
"	21	New England Ground Bone.	29715	The Sussex Mercantile Co., Ltd, Sussex St., Kings, N.B.	New England Fertilizer Co., Boston, Mass.	2137
"	22	Pacific Potato Special.	29716	Toombs & Son, Main St., Moncton, N.B.	Am. Agr. Chem. Co., Boston, Mass.	2161
June	4	Bradley's XL Superphosphate.	29717	Henry E. Hill, King St., St. Stephen, N.B.	" " . . . . .	2144
"	4	Imperial Superphosphate.	29718	F. E. Rose, King St., St. Stephen, N.B.	Provincial Chem. & Fertilizer Co., Ltd, St. John, N.B.	2209
	6	Special Potato Phosphate.	29719	Jas. A. Bell, Queen St., Fredericton, N.B.	" " . . . . .	2212
	8	Reid's Patch Manure.	29720	C. P. Phillips, Main Road, Woodstock, N.B.	American Agr. Chemical Co., New York.	2157
	9	Bradley's High Grade with 10 per cent potash.	29721	James E. Porter & Son, Andover, Victoria Co., N.B.	" " . . . . .	2151



SESSIONAL PAPER No. 14

—BULLETIN No. 161.

Samples.	RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
	Nitrogen, p.c.		Phosphoric Acid, p.c.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total, including that of nitric acid, if or ammonia, if present.	Total calculated as ammonia.	Soluble in Water.	Reverted or Citrate Soluble.	Insoluble.	Total.	Total available.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.	

—T. MOORE, INSPECTOR *Continued.*

Guarantee.	1.65	2.00	...	...	...	8.00	7.00	4.00	...	17.61	
Standard Bull.151.	1.54	1.87	5.10	3.75	0.62	9.47	8.85	4.44	6.35	20.11	
As found.....	1.43	1.73	4.00	3.94	0.76	8.70	7.94	4.52	1.90	18.74	Up to guarantee.
Guarantee.	1.65	2.00	...	...	...	9.00	8.00	3.00	...	17.38	
Standard Bull.151.	2.07	2.52	5.00	3.63	0.87	9.50	8.63	3.66	4.75	20.54	
As found.....	1.47	1.79	4.30	4.37	0.60	9.27	8.67	3.54	7.60	18.39	" "
As found.....	...	...	...	12.49	3.66	16.45	12.49	...	...	14.84	Not registered.
Guarantee.	7.66	9.31	...	...	...	10.46	...	10.60	...	...	
Standard Bull.151.	7.55	9.18	5.00	2.50	2.95	10.45	7.50	...	10.00	33.83	
As found.....	6.38	7.75	0.35	10.53	1.07	11.95	10.88	...	6.00	32.74	Up to guarantee.
As found.....	0.18	0.22	17.25	0.93	0.27	18.45	18.18	...	12.50	22.41	Not registered.

—J. C. FERGUSON, INSPECTOR.

Guarantee.	...	...	...	...	...	...	...	...	...	...	
Standard Bull.151.	0.69	0.83	2.37	3.20	4.35	9.92	5.57	...	16.5	10.02	
As found.....	3.81	4.62	1.91	4.03	3.54	9.48	5.94	2.51	17.39	23.31	Up to guarantee.
Guarantee.	2.47	3.00	...	...	...	9.00	8.00	6.00	...	23.50	
Standard Bull.151.	2.60	2.96	4.80	5.32	0.95	11.07	10.12	6.56	6.40	27.30	
As found.....	2.42	2.94	5.37	1.84	0.79	7.98	7.21	6.07	8.77	23.00	
Guarantee.	1.65	2.00	...	...	...	9.00	8.00	2.00	...	16.71	
Standard Bull.151.	1.68	2.04	6.12	2.81	2.77	11.70	8.93	2.19	9.66	19.08	
As found.....	1.89	2.30	6.73	2.47	1.75	10.93	9.20	5.06	13.15	20.71	" "
Guarantee.	2.47	3.00	...	...	...	2.00	...	...	...	...	
Standard Bull.151.	2.51	3.03	...	14.23	10.87	25.19	14.23	...	10.35	26.95	
As found.....	2.42	2.94	...	18.92	7.88	26.80	18.92	...	11.00	30.92	
Guarantee.	2.66	2.50	5.00	3.00	2.00	10.00	8.00	3.00	...	19.50	
Standard Bull.151.	2.27	2.75	5.62	3.21	2.82	11.65	8.87	3.47	11.40	22.31	
As found.....	1.71	2.07	5.35	2.88	2.47	10.70	8.23	3.93	13.85	19.17	" "
Guarantee.	2.06	2.50	5.00	3.00	2.00	10.00	8.00	1.50	...	18.40	
Standard Bull.151.	2.27	2.75	6.62	0.55	3.00	10.17	7.17	1.73	12.15	18.90	
As found.....	2.13	2.58	7.80	2.43	1.67	11.90	10.23	3.22	15.20	23.00	
Guarantee.	2.80	3.40	...	...	...	10.50	...	2.40	...	23.27	
Standard Bull.151.	2.52	3.06	6.75	3.18	2.12	12.05	9.93	2.06	8.90	22.86	
As found.....	2.31	2.80	4.25	4.03	1.27	9.55	8.28	3.13	7.25	20.90	Nearly up to guarantee.
Guarantee.	2.55	3.10	...	...	...	8.15	7.20	...	...	24.84	
Standard Bull.151.	2.31	2.81	4.67	2.46	0.87	8.00	7.13	7.37	9.30	23.80	
As found.....	1.52	1.85	6.95	2.53	1.07	10.55	9.48	4.90	9.25	21.51	Low in potash.
Guarantee.	2.40	3.00	5.00	1.00	1.00	7.00	6.00	10.00	...	25.56	
Standard Bull.151.	2.86	3.47	5.42	1.28	2.55	9.25	6.70	9.84	7.25	28.24	
As found.....	2.10	2.57	5.53	2.05	1.67	9.25	7.58	8.19	11.15	24.72	Up to guarantee.
Guarantee.	2.40	3.00	5.00	1.00	1.00	7.00	6.00	10.00	...	25.56	
Standard Bull.151.	2.69	3.26	5.17	2.15	2.10	9.42	7.32	9.84	8.55	28.19	
As found.....	2.37	2.87	4.93	3.60	1.42	9.95	8.53	9.38	10.00	27.68	" "



9-10 EDWARD VII., A. 1910  
FERTILIZERS AS SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Addresss of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	Register Number.
1908.						

DISTRICT OF QUEBEC

May 11	Defiance Fertilizer	26413	Nap. Marcotte, Port-neuf.	P. T. Legaré, Quebec.	Inspector did not identify with standards. The identification given is therefore subject to question.—A. McG.	2095
" 12	Complete Manure.	26414	Juste Brière, Port-neuf.	Julien & Vézina, Quebec.		
" 13	Victor .....	26432	Joseph Dagenais, Cap Sante.	P. T. Legaré, Quebec.		2226
" 26	Complete Fertilizer.	26463	Philiass Lehoux, St. Elzéar, Beauce.	Albert Landry, St. Elzéar, Beauce.		2094
" 26	Standard Bone Potash.	26464	" " "	Joseph Guay, St. Elzéar, Beauce.		2072
" 26	Bilston Basic Phosphate.	26465	" " "	Samuel Vachon, St. Elzéar, Beauce.	Identification uncertain.	2216
" 26	Capelton Chemical Fertilizer.	26466	Edouard Gagnon, Fils, St. Marie, Beauce.	Clovis Mercier, St. Marie, Beauce.	" " "	2225
" 27	Homestead Corn and Grain Producer.	26467	Jean Sylvain, St. Elzéar, Beauce.	Jos. Guay, St. Elzéar, Beauce.		2112
" 27	Capelton Chemical Fertilizer.	26468	" " "	Albert Landry, St. Elzéar, Beauce.	Identification uncertain.	2225
" 27	Fruit and Vine...	26470	Appolinaire Drouin, St. Elzéar, Beauce.	George Gagnon, St. Marie, Beauce.		2093

DISTRICT OF ST. HYACINTHE

May 11	Bowker's Potash Bone Phosphate.	140	A. C. Trempe, Sorel.	Bowker Fertilizer Co., Boston.		2199
" 11	Vermont Phosphate.	141	" " "	" " "		2193
" 13	Victor .....	142	Nap. Quintin, Iberville.	Capelton Chem.& Fertilizer Co., Buckingham.		2226
" 14	Bradley's Eclipse Phosphate for all Crops.	143	Chs. Payne, Granby.	The Am. Agr.& Chem. Co., New York.		2147



SESSIONAL PAPER No. 14

—BULLETIN No. 161

Samples.	RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.	
	Nitrogen, p.c.		Phosphoric acid. p. c.						Potash.	Water.		Relative value per ton of 2,000 lbs.
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in Water.	Reverted or Citrate Soluble.		Insoluble.	Total.	Total available.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.		

—E. BÉLAND, INSPECTOR.

Guarantee.....	1.65	2.00	6.00	2.00	1.00	9.00	8.00	2.00			17.31	
Standard Bull. 151	1.96	2.38	5.37	3.71	1.67	9.75	8.08	2.31	13.35	20.00		
As found.....	1.79	2.18	6.95	1.80	1.20	9.95	8.75	4.38	13.10	21.15		Up to guarantee, pro- vided that identifica- tion is correct.
As found.....	2.13	2.40	3.70	5.13	2.92	11.75	8.83	3.45	13.20	21.65		Apparently not regis- tered.
.....	1.65	2.00				7.00		3.00				
.....	2.69	3.26	6.65	1.12	1.35	9.12	7.77	3.70	6.20	22.46		
As found.....	1.23	1.50	2.00	4.40	1.15	7.55	6.40	2.64	4.80	14.41		Up to guarantee.
Guarantee.....	1.65	2.00	6.00	2.00	1.00	9.00	8.00	4.00		19.31		
Standard Bull. 151.	1.88	2.28	5.17	3.56	2.37	11.10	8.73	4.32	12.15	21.54		
As found.....	1.54	1.87	5.05	3.40	2.70	11.25	8.45	3.82	12.65	19.67		"
.....	1.65	2.00	6.00	2.00	1.00	9.00	8.00	4.00		19.31		
.....	1.79	2.18	5.37	3.85	1.80	11.02	9.22	4.82	11.20	22.13		
As found.....	1.60	1.94	4.83	3.72	2.70	11.25	8.58	3.82	11.25	19.96		"
Standard Bull. 151.				14.25	6.10	20.35	14.25			17.57		
As found.....				15.21	5.84	21.05	15.21			18.48		Apparently up to stand- ard sample.
Guarantee.....	1.65	2.00				6 to 7		2 to 3				
Standard Bull. 151	2.77	3.66	5.00	3.45	1.17	9.62	8.45	2.89	5.40	22.45		
As found.....	0.97	1.17	2.40	3.69	1.11	7.20	6.09	3.61	3.25	14.18		Up to guarantee.
.....	1.65	2.00	6.00	2.00	1.00	9.00	8.00	2.00		17.31		
.....	2.66	2.87	6.17	3.53	2.36	12.00	9.70	2.24	9.45	23.26		
As found.....	1.54	1.87	3.60	4.99	2.91	11.50	8.59	1.95	12.50	17.87		"
Guarantee.....	1.65	2.00				6 to 7		2 to 3				
Standard Bull. 151	2.77	3.66	5.00	3.45	1.17	9.62	8.45	2.89	5.40	22.45		
As found.....	1.19	1.45	1.65	4.58	1.30	7.53	6.23	3.59	3.70	15.04		"
.....	1.65	2.00	6.00	2.00	1.00	9.00	8.00	10.00		25.31		
.....	1.79	2.13	4.65	3.03	2.07	9.75	7.68	10.33	12.35	25.15		
As found.....	1.65	2.00	5.88	2.48	2.84	11.20	8.36	8.20	12.90	24.45		"

—J. C. ROULEAU, INSPECTOR.

Guarantee.....	0.82	1.00				8.00	6.00	2.00		11.99		
Standard Bull. 151	0.98	1.19	3.42	4.38	2.00	9.80	7.80	2.20	14.25	15.05		
As found.....	1.36	1.65	7.90	2.27	0.91	11.08	10.17	2.17	16.15	19.04		Up to guarantee.
Guarantee.....	2.47	3.00				10.00	8.00	4.00		21.80		
Standard Bull. 151	2.65	3.11	4.92	3.13	2.35	10.40	8.05	4.82	12.80	23.88		
As found.....	2.60	3.16	6.10	2.90	1.40	10.40	9.00	4.65	14.40	24.42		"
Guarantee.....	1.65	2.00				7.00		3.00				
Standard Bull. 151.	2.69	3.26	6.65	1.12	1.35	9.12	7.77	3.70	6.20	22.46		
As found.....	2.21	2.69	1.75	4.14	1.16	7.05	5.89	3.12	4.85	17.63		Apparently up to guar- antee.
Guarantee.....	1.03	1.25	6.00	2.00	2.00	10.00	8.00	2.00		15.50		
Standard Bull. 151	1.31	1.60	6.12	2.73	2.25	11.10	8.85	2.20	6.15	17.68		
As found.....	0.87	1.05	5.35	4.46	1.81	11.62	9.81	1.74	10.30	16.57		Up to guarantee.



9-10 EDWARD VII., A. 1910  
FERTILIZERS AS SOLD

Date of collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Register Number.
1908.						
DISTRICT OF ST. HYACINTHE						
May 15	Potato and Vegetable Phosphate.	144	P. A. Ruiter, Cowansville.	Bowker Fertilizer Co., Boston.	.....	2194
" 15	Corn Phosphate..	145	" " ..	" " ..	.....	2195
" 18	Superphosphate with Potash.	146	W. M. Taylor, Richmond.	Bowker Fertilizer Co., Boston.	.....	2202
" 19	Alkaline Bone with Potash.	147	Osgood & Sons, Cookshire.	The Am. Agr. & Chem. Co., New York.	.....	2149
" 20	Sure Crop Bone Phosphate.	148	B. J. Smith, Coaticook.	Bowker Fertilizer Co., Boston.	..	2198
" 21	Sure Crop Bone Phosphate	149	Antoine Tétrault, Ste. Madelaine.	" " .	.....	2198
DISTRICT OF MONTREAL						
May 19	Farmers' Choice..	32957	Thomas Cogland, Herdman, Que.	Buffalo Fertilizer Co., Buffalo, N. Y.	.....	2186
" 19	Corn Phosphate...	32958	" " .	" " ..	.....	2195
" 20	Kainit.....	32959	Wm Ewing & Co., 142 McGill St., Montreal.	Taylor, N. Y.....	.....	
" 20	Sure Growth.....	32960	" " ..	W. A. Freeman Co., Ltd.	.....	2105
" 20	Bone and Potash..	32961	Wm Ewing & Co., 142 McGill St., Montreal.	Wm. A. Freeman Co., Ltd.	.....	2101
" 20	Crocker's Complete Manure.	32962	Wm Rennie Co., 190, McGill St., Montreal.	Am. Agr. Chem. Co., Buffalo, Sales Department.	.....	2090
" 21	Standard Tankage	32963	Wm Cooper & Co., 338 St. James St., Montreal.	Laing P. & P. Co., Ltd, Montreal.	.....	2116
June 1	Eureka... ..	32964	M. O. Ferland, Berthierville, Q e.	Capelton Chem. & Fert. Co.	.....	2222
" 1	Victor.....	32965	" " ..	" " ..	.....	2226
" 1	Celery, Onion and Truck.	32966	" " ..	Am. Agr. Chem. Co.	.....	2218



SESSIONAL PAPER No. 14  
—BULLETIN No. 161.

Samples.	RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
	Nitrogen, p.c.		Phosphoric Acid, p.c.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.	
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in Water.	Reverted or Citrate Soluble.	Insoluble.	Total.	Total available.				
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	\$ cts.	

—J.-C. ROULEAU, INSPECTOR—*Concluded.*

Guarantee	1 65	2 00				9 60	8 00	2 00		16 71	
Standard Bull. 151	1 68	2 04	6 12	2 81	2 77	11 70	8 93	2 10	9 60	19 08	
As found.....	1 54	1 87	7 10	2 29	1 39	10 78	9 39	1 64	12 85	18 33	Up to guarantee.
Guarantee	1 65	2 00				9 00	8 00	2 00		16 71	
Standard Bull. 151	1 74	2 11	5 92	2 86	2 37	11 15	8 78	2 43	11 30	19 31	
As found. ....	1 67	2 02	5 97	3 04	1 34	10 35	9 01	1 82	11 75	18 41	"
Guarantee						11 09	10 00	2 00		13 30	
Standard Bull. 151	0 78	0 96	5 57	3 98	3 50	13 05	9 55	2 10	10 00	16 86	
As found.. ....	0 15	0 91	3 30	8 35	1 75	13 40	11 65	2 02	12 75	16 20	"
Guarantee			5 00	5 00	1 00	12 00	11 00	2 00		13 80	
Standard Bull. 151			6 92	5 58	1 80	14 30	12 50	1 98	8 45	16 96	
As found.....	0 27	0 32	6 80	4 25	1 90	12 95	11 05	1 68	10 50	16 03	"
Guarantee	0 82	1 00				9 00	8 00	2 00		13 80	
Standard Bull. 151	0 91	1 10	5 75	3 13	1 57	10 45	8 88	1 95	11 15	15 86	
As found.....	1 26	1 53	5 60	4 28	1 35	11 23	9 88	1 77	14 40	17 89	"
Guarantee	0 82	1 00				9 00	8 00	2 00		13 80	
Standard Bull. 151	0 91	1 10	5 75	3 13	1 57	10 45	8 88	1 95	11 15	15 86	
As found.....	1 02	1 24	3 63	6 28	2 64	12 55	9 91	1 20	7 20	16 72	

J. J. COSTIGAN, INSPECTOR.

Guarantee	0 82	1 00					8 00	5 00		16 50	
Standard Bull. 151	1 01	1 22	5 75	0 80	3 30	9 85	6 55	6 18	14 40	18 38	
As found.....	0 98	1 19	4 62	2 05	4 05	10 72	6 67	4 12	15 55	16 47	Up to guarantee.
Guarantee	1 65	2 00				9 00	8 00	2 00		16 71	
Standard Bull. 151	1 74	2 11	5 92	2 86	2 37	11 17	8 78	2 43	11 30	19 31	
As found.....	1 48	1 80	7 53	2 41	1 26	11 20	9 94	2 37	10 00	19 47	"
.....											
.....								24 36		24 36	Not registered.
Guarantee	2 88	3 50				8 00		3 00			
Standard Bull. 151	3 43	4 16	0 47	5 93	2 90	9 30	6 40	4 61	6 95	24 23	
As found. ....	3 19	3 88	3 39	4 46	2 45	10 30	7 85	5 11	11 10	25 67	Up to guarantee.
Guarantee	1 65	2 00				9 00		6 00			
Standard Bull. 151	3 02	3 67	1 22	4 95	2 95	9 12	6 17	6 29	10 10	24 35	
As found. ....	3 56	4 20	0 95	7 46	2 36	10 77	8 41	6 46	13 90	28 62	Up to guarantee.
Guarantee	0 82	1 00	6 00	2 00	1 00	9 00	8 00	4 00		16 49	
Standard Bull. 151	0 95	1 16	5 50	1 42	2 80	9 72	6 92	4 40	12 15	16 63	
As found. ....	0 91	1 11	7 30	2 06	1 24	10 60	9 36	4 28	12 40	18 87	"
Guarantee	7 66	9 31				10 46			10 60		
Standard Bull. 151	7 56	9 18	5 00	2 50	2 95	10 45	7 50		10 60	33 83	
As found. ....	6 94	8 43	0 60	11 17	1 55	13 32	11 77		8 65	37 07	"
Guarantee	2 47	3 00				4 00		4 00			
Standard Bull. 151	2 27	2 75	1 40	2 50	2 50	6 40	3 90	4 05	5 90	16 95	
As found.....	2 10	2 55	4 48	1 73	1 36	7 57	6 21	4 28	4 75	19 12	"
Guarantee	1 65	2 00				7 00		3 00			
Standard Bull. 151	2 69	3 26	6 65	1 12	1 35	9 12	7 77	3 70	6 20	22 46	
As found.....	1 29	1 56	5 87	1 81	1 67	9 35	7 68	3 41	6 80	17 33	"
Guarantee	4 11	5 00				4 00		12 00			
Standard Bull. 151	4 07	4 95	3 67	1 83	1 00	6 50	5 50	12 06	9 45	32 62	
As found.. ....	4 03	4 90	3 87	2 31	0 97	7 15	6 18	11 79	11 00	32 97	"



9-10 EDWARD VII., A. 1910  
FERTILIZERS AS SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Register Number.
1908.						

DISTRICT OF OTTAWA

May 18	Victor Complete Fertilizer.	34189	Kenneth McDonald & Sons, Market Square, Ottawa, Ont.	Capelton Chem. & Fertilizer Co., Buckingham, Que.		2226
" 19	Royal Canadian...	22634	" " "	" " "		2224
" 19	Alberts Thomas Phosphate Powder.	22635	Wm Gray, Market Square, Ottawa, Ont.	Works H. & E. Albert, London.		2109
" 19	Fine Ground Bone	22636	Graham Bros., Sparks St. Ottawa, Ont.	Am. Agr. Chem. Co., N.Y.		2170
" 19	Alberts Horticultural Manure.	22637	" " "	Chem. Works late H. & E. Albert, Rhine, Germany.		2111
" 28	New Method.....	22638	H. Brown & Sons, Brockville, Ont.	The Am. Agr. Chem. Co., N.Y.		2083
" 28	Complete Manure.	22639	" " "	" " "		2085
" 28	Sea Fowl Guano...	22640	" " "	" " "		2084
" 28	Read's Superphosphate.	22641	A. E. Cameron, Brockville, Ont.	The American Agr. Chem. Co., New York.		2152
" 29	Watch Em Grow .	22642	The Standard Fert. and Chem. Co., Smith's Falls, Ont.	The Standard Fert. & Chem. Co., Smith's Falls, Ont.		2115

DISTRICT OF KINGSTON

May 12	High Grade Potash Compound.	35247	Earl Spencer, Picton.	American Agr. Chem. Co., Buffalo, N.Y.		2082
" 12	Bradley's B. D. Sea Fowl Guano.	35248	" " "	" " "		2084
" 12	Bradley's Complete Manure for Potatoes and Vegetables.	35249	" " "	" " "		2085
" 14	Sure Growth Manure.	35250	D. Denton, King St., Cobourg.	W. A. Freeman Co., Ltd., Hamilton.		2105
" 14	Potato Manure...	35251	Thompson, Macdonald Co., Ltd, Division St., Cobourg.	" " "		2104



SESSIONAL PAPER No. 14  
—BULLETIN No. 161.

Sample.	RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.		
	Nitrogen, p.c.		Phosphoric Acid, p.c.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.			
	Total including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in Water.	Reverted or Citrate Soluble.		Insoluble.	Total.						
												Total available.	
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	\$ cts.			

—J. A. RICKEY, INSPECTOR.

Guarantee	1.65	2.00					7.00		3.00		
Standard Bull. 151.	2.69	3.26	6.65	1.12	1.35	9.12	7.77	3.70	6.20	22.46	
As found	1.57	1.90	2.40	2.95	1.57	6.92	5.35	3.68	5.35	15.61	Up to guarantee.
Guarantee	3.29	4.00				9.00		5.00			
Standard Bull. 151.	4.12	5.00	9.65	9.17	1.30	11.12	9.82	6.27	10.15	32.44	
As found	3.05	3.71	8.25	2.18	0.44	10.87	10.43	4.16	6.75	26.97	Nearly up to guarantee.
Guarantee						17.00					
Standard Bull. 151.				13.00	5.25	18.25	13.00			15.88	
As found				13.25	3.86	17.11	13.25			15.73	Up to guarantee.
Guarantee	2.50	3.00				21.00					
Standard Bull. 151.	2.38	2.89		14.93	9.82	24.75	14.93		5.15	27.46	
As found	2.38	2.89		14.35	8.20	22.55	14.35		3.35	26.34	" "
Guarantee	11.90	14.45	11.10					15.16		68.94	
Standard Bull. 151.	12.07	14.65	11.10	none	trace	11.10	11.10	15.25	13.95	69.61	
As found	11.19	13.58	12.40	0.94	0.33	13.67	13.34	13.40	5.10	67.16	" "
Guarantee	0.82	1.00	6.00	2.00	1.00	9.00	8.00	2.00		14.49	
Standard Bull. 151.	2.10	2.55	5.00	1.97	3.00	9.97	6.97	2.10	9.95	18.31	
As found	0.88	1.07	6.85	1.35	1.65	9.85	8.20	2.14	12.65	15.33	" "
Guarantee	3.29	4.00	6.00	2.00	1.00	9.00	8.00	7.00		27.89	
Standard Bull. 151.	3.36	4.08	5.50	2.82	1.75	10.07	8.32	6.89	10.25	25.84	
As found	3.36	4.08	4.05	4.98	2.72	11.75	9.03	5.77	11.40	28.35	" "
Guarantee	2.06	2.50	6.00	2.00	1.00	9.00	8.00	1.50		18.20	
Standard Bull. 151.	2.25	2.74	5.25	2.40	2.75	10.40	7.65	2.29	10.35	19.71	
As found	2.04	2.48	4.70	3.74	2.99	11.43	8.44	1.81	9.90	19.40	" "
Guarantee	0.82	1.00	5.00	3.00	2.00	10.00	8.00	4.00		16.69	
Standard Bull. 151.	1.16	1.41	5.42	2.71	2.37	10.50	8.13	5.44	6.55	19.58	
As found	1.05	1.28	7.70	1.95	0.90	10.55	9.65	3.33	12.90	18.56	" "
Guarantee	3.29	4.00					9.00	8.00		29.68	
Standard Bull. 151.	4.02	4.88	11.00	0.85	1.55	13.40	11.85	7.43	6.70	35.70	
As found	4.03	4.90	10.35	1.33	0.72	12.40	11.68	6.36	10.40	34.16	" "

—J. HOGAN, INSPECTOR.

Guarantee	1.65	2.00	6.00	2.00	1.00	9.00	8.00	10.00		25.31	
Standard Bull. 151.	2.10	2.55	5.25	1.75	2.50	9.50	7.00	9.96	12.05	26.08	
As found	1.58	1.92	6.93	1.97	1.35	10.25	8.90	9.82	11.85	26.08	Up to guarantee.
Guarantee	2.06	2.50	6.00	2.00	1.00	9.00	8.00	1.50		18.20	
Standard Bull. 151.	2.25	2.74	5.25	2.40	2.75	10.40	7.65	2.29	10.35	19.71	
As found	3.05	3.71	5.20	4.12	1.91	11.23	9.32	5.83	11.85	27.54	" "
Guarantee	3.29	4.00	6.00	2.00	1.00	9.00	8.00	7.00		27.89	
Standard Bull. 151.	3.36	4.08	5.50	2.82	1.75	10.07	8.32	6.89	10.25	28.54	
As found	3.39	4.11	5.15	4.12	1.53	10.80	9.27	7.50	12.05	30.20	" "
Guarantee	2.88	3.50				8.00		3.00			
Standard Bull. 151.	3.43	4.16	0.47	5.93	2.90	9.30	6.40	4.61	6.95	24.23	
As found	2.48	3.01	1.55	5.75	3.85	11.15	7.30	2.87	10.30	20.64	Nearly up to guarantee.
Guarantee	2.47	3.00				8.00		5.00			
Standard Bull. 151.	3.05	3.71	0.87	5.33	3.35	9.55	6.20	5.96	7.45	24.24	
As found	2.76	3.35	1.20	6.16	3.47	10.83	7.36	6.28	8.65	24.86	Up to guarantee.



9-10 EDWARD VII., A. 1910  
FERTILIZERS AS SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Register Number.
1908.						
DISTRICT OF KINGSTON						
May 14	Lawn Fertilizer..	35252	Thompson, Macdonald Co., Ltd, Division St., Cobourg.	W. A. Freeman Co., Ltd., Hamilton.	.....	2265
	14 Bone and Potash..	35253	" " ..	" " ..	.....	2101
DISTRICT OF TORONTO						
May 13	Crocker's Best Potash Fertilizer.	35114	L. H. Weaver, Dunnville.	American Agr. Chem. Co., Buffalo, N.Y.	.....	2089
" 14	Crocker's Wheat and Corn Fertilizer.	35115	Thos Wigg, Cayuga.	" " ..	.....	2087
15	Crocker's Complete Manure.	35116	R. Moore & Son, Welland.	" " ..	.....	2090
" 15	Crocker's New York Special Phosphate.	35117	John Spencer, Port Colbourne.	" " ..	.....	2086
16	Bradley's B.D. Sea Fowl Guano.	35118	Titterington Bros., St. Catharines.	" " ..	.....	2084
" 20	Pure Ground Bone	35119	H. St. Clair Fisher, Queenston.	" " ..	Uncertain identification.	2146 2163 2170 2188
20	Celery and Potato Special.	35120	C. Field, Niagara on the Lake, P.O.	Buffalo Fert. Co., Buffalo, N.Y.	.....	2186
" 20	Farmers' Choice..	35121	" " ..	" " ..	.....	2103
22	Celery and Early Vegetable Manure.	35122	W. A. Freeman & Co. Ltd, 57 Ferguson ave., South Hamilton.	W. A. Freeman & Co., Ltd, 57 Ferguson ave., South Hamilton.	.....	2067
23	Potato and Truck Manure.	35123	P. A. Bart, Oakville, Ont.	International Seed Co., Rochester, N.Y.	.....	
DISTRICT OF LONDON						
May 26	Queen City Fertilizer.	30925	Vedien & Co., Flour & Feed Store.	Steel, Brigs & Co., Toronto.	.....	



SESSIONAL PAPER No. 14

—BULLETIN No. 161.

Samples.	RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.	
	Nitrogen, p.c.		Phosphoric Acid, p.c.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.		
	Total, including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Reported or Citrate Soluble.		Insoluble.	Total.					Total available.
				p.c.	p.c.							
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	\$ cts.		

—J. HOGAN, INSPECTOR—*Concluded.*

Guarantee . . . . .		3.00					9.00		4.00		
Standard . . . . .	1.74	2.11	2.15	4.29	6.07	12.50	6.43	5.21	6.85	20 24	
As found . . . . .	2.30	2.79	3.83	4.50	3.02	11.35	8.33	6.65	10.55	24 92	Up to guarantee.
Guarantee . . . . .	1.65	2.00				9.00		6.00			
Standard Bull. 151.	3.02	3.67	1.22	4.95	2.95	9.12	6.17	6.29	10.10	24 35	
As found . . . . .	2.95	3.59	1.25	5.83	2.82	9.90	7.08	4.86	9.70	23 65	Nearly up to standard

—H. J. DAGER, INSPECTOR.

Guarantee . . . . .	1.65	2.00	6.00	2.00	1.00	9.00	8.00	10.00	.....	25 31	
Standard Bull. 151.	1.75	2.13	5.25	2.92	2.20	10.39	8.17	10.00	12.25	26 12	
As found . . . . .	1.69	2.06	7.62	1.47	1.51	10.60	9.09	7.98	12.05	24 94	Up to guarantee.
Guarantee . . . . .	2.06	2.50	6.00	2.00	1.00	9.00	8.00	1.50	.....	18 20	
Standard Bull. 151.	2.41	2.92	5.00	3.38	3.12	11.50	8.38	2.02	10.15	20 87	
As found . . . . .	2.00	2.43	5.50	4.03	2.50	12.03	9.53	7.40	12.40	25 98	
Guarantee . . . . .	0.82	1.00	6.00	2.00	1.00	9.00	8.00	4.00	....	16 49	
Standard Bull. 151.	0.95	1.16	5.50	1.42	2.80	9.72	6.92	4.40	12.15	16 63	
As found . . . . .	0.70	0.85	9.50	2.16	1.24	12.90	11.66	4.37	10.40	20 90	
Guarantee . . . . .			8.00	2.00	1.00	11.00	10.00	8.00	....	20 10	
Standard Bull. 151.	0.31	0.37	9.50	0.25	1.25	11.00	9.75	7.74	10.05	20 84	
As found . . . . .	0.21	0.26	8.13	3.52	0.85	12.50	11.65	7.68	11.75	22 28	
Guarantee . . . . .	2.06	2.50	6.00	2.00	1.00	9.00	8.00	1.50	.....	18 20	
Standard Bull. 151.	2.25	2.74	5.25	2.40	2.75	10.40	7.65	2.29	10.35	19 71	
As found . . . . .	1.93	2.35	4.30	4.31	3.49	12.19	8.61	1.89	9.65	19 49	
Guarantee . . . . .						21-23					
Standard Bull. 151.											
As found . . . . .	2.30	2.79	.....	10.00	10.35	20.35	10.00	.....	4.15	21 41	
Guarantee . . . . .	1.65	2.00					8.00	10.00	.....	24 41	
Standard Bull. 151.	1.72	2.09	4.62	1.40	3.65	9.67	6.02	10.81	13.60	24 84	
As found . . . . .	1.76	2.14	5.10	3.82	3.88	12.80	8.92	7.60	10.00	25 07	
Guarantee . . . . .	0.82	1.00					8.00	5.10	....	16 59	
Standard Bull. 151.	1.01	1.22	5.75	0.80	3.30	9.85	6.55	6.18	14.40	18 38	
As found . . . . .	1.04	1.26	6.15	2.02	4.01	12.18	8.17	4.28	12.50	18 62	
Guarantee . . . . .	4.12	5.00				9.00		5.00			
Standard Bull. 151.	5.50	6.68	0.85	6.03	2.37	9.25	6.88	4.96	9.15	32 02	
As found . . . . .	4.45	5.44	trace	10.91	1.19	12.10	10.91	6.58	12.80	34 07	Up to standard.
Guarantee . . . . .	1.25	1.50	6.00	2.00	1.00	9.00	8.00	7.00	....	20 95	
Standard Bull. 151.	2.10	2.55	5.00	2.88	2.37	10.25	7.88	7.26	11.40	24 28	
As found . . . . .	1.23	1.50	4.70	4.20	1.50	10.40	8.90	4.96	17.05	19 85	Nearly up to guarantee.

—T. A. KIDD, INSPECTOR.

As found . . . . .	2.55	3.15	1.75	6.23	2.07	10.05	7.98	3.18	14.00	21 42	Not registered.
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9-10 EDWARD VII., A. 1910  
FERTILIZERS AS SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	Register Number.
1908.						

DISTRICT OF WINDSOR

May 16	Fertilizer.....	34547	J. G. Eidt, Berlin...	W. A. Freeman, Hamilton.	...	2103
June 9	" .....	34555	J. B. Hay, Brantford	Am. Agr. Chem. Co., N.Y.	Identification uncertain.	.....
" 9	Bone Meal.....	34573	Darch & Hunter, London.	Michigan Carbon Works, Detroit.	.....	2244

DISTRICT OF MANITOBA

June 10	Fertilizer.....	33150	The Steele - Briggs Seed Co., Ltd, Winnipeg.	The Steele - Briggs Seed Co., Ltd., Toronto, Hamilton & Winnipeg.	.....	.....
" 10	Lawn Fertilizer...	33151	Wm Rennie & Co., Ltd., Winnipeg.	Wm Rennie & Co., Ltd., Toronto.	.....	.....
" 11	Soda Nitrate.....	33152	The Bole Drug Co., Winnipeg.	Not given.....	.....	2056
" 12	Tankage Fertilizer	33153	Gallagher, Holman & Lafrance, Winnipeg.	Gallagher, Holman & Lafrance, Winnipeg	.....	.....
" 12	Blood Fertilizer...	33154	" .....	" .....	.....	.....
" 19	Unground Tankage.	33155	J. F. Griffin & Co., Winnipeg.	J. F. Griffin & Co., Winnipeg.	.....	.....
" 23	Lawn Fertilizer...	33156	A. E. Mackenzie & Co., Ltd, Brandon.	Dom. Fish Co., West-Selkirk.	.....	.....

DISTRICT OF CALGARY

June 24	Fertilizer, Blood & Bone.	28955	J. F. Griffin & Co., Calgary.	J. T. Griffin & Co., Winnipeg.	.....	.....
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DISTRICT OF VANCOUVER

May 15	Fertilizer "B" Grade.	34295	Brackman & Ker, Vancouver.	Victoria Chem. Co., Victoria.	.....	2233
" 16	Bone Meal.....	34296	M. J. Henry, Vancouver.	Portland Seed Co., Portland, Oregon.	.....	2052
" 16	Nitrate of Soda...	34297	" .....	Victoria Chem. Co., Victoria.	.....	2237



SESSIONAL PAPER No. 14  
—BULLETIN No. 161.

Samples.	RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
	Nitrogen, p.c.		Phosphoric Acid, p.c.					Potash	Moisture.	Relative value per ton of 2,000 lbs.	
	Total, including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in Water.	Reverted or Citrate Soluble.	Insoluble.	Total.	Total available.				
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	\$ cts.	

—J. TALBOT, INSPECTOR.

Guarantee.....	4.12	5.00				2.00		5.00			
Standard Bull. 151	5.50	6.68	0.85	6.03	2.37	9.25	6.88	4.96	9.15	32.02	
As found.....	4.35	5.29	2.05	4.29	1.81	8.15	6.34	6.89	10.60	29.40	Up to guarantee.
Guarantee.....											
Standard Bull. 151											Probably registered but
As found.....	8.62	10.47	trace	1.79	0.29	2.08	1.79	6.50	8.25	37.86	not certainly identifi- able.
Guarantee.....		1.50					25.00			31.47	
Standard Bull. 151	1.22	1.48		16.75	14.50	31.25	16.75		1.50	26.68	
As found.....	1.53	1.85		19.90	12.30	32.20	19.90		2.45	30.48	Up to guarantee.

—A. E. LARIVIERE, INSPECTOR.

As found.....	3.39	4.11	1.30	2.81	3.52	7.63	4.11	6.83	5.95	24.06	Cannot be identified with any standard, and appears to be unregistered.
As found.....	1.33	1.62	trace	9.91	2.87	12.78	9.91	0.60	1.75	16.88	
Guarantee.....	14.82	18.00								50.39	
Standard Bull. 151	14.42	17.60							1.00	49.03	Identification doubtful.
As found.....	10.25	12.44							0.50	34.85	Probably unregistered.
As found.....	4.00	4.86	0.50	12.95	1.70	15.15	13.45		16.25	28.16	Not registered.
As found.....	10.86	13.19		2.26	0.35	2.61	2.26		20.82	37.34	
As found.....	6.16	7.48	0.25	11.83	3.37	15.45	12.08		6.85	34.04	
As found.....	6.51	7.91	trace	5.07	4.66	9.73	5.07	0.90	11.99	30.00	

—R. W. FLETCHER, INSPECTOR.

As found.....	6.23	7.57		12.63	3.57	16.20	12.63		5.75	35.00	Not registered.
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—J. F. POWER, INSPECTOR.

Guarantee.....	3.50					9.00		11.00			
Standard Bull. 151	2.53	3.08	7.52	0.56	0.42	8.50	8.08	14.06	12.60	32.43	
As found.....	0.50	0.61	11.70	0.34	0.29	12.33	12.04	11.73	8.90	28.03	Up to guarantee.
Guarantee.....	3.33	4.01				21.12	15.95			29.75	
Standard Bull. 151	3.50	4.25				5.87	21.00	15.13		6.05	29.60
As found.....	3.32	4.03		14.65	8.45	23.10	14.65		5.10	29.27	" "
Guarantee.....	16.00									54.40	
Standard Bull. 151	12.80	15.54							0.75	43.52	Up to standard.
As found.....	13.57	16.48							0.60	46.14	



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FERTILIZERS AS SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Register Number.
1908.						

DISTRICT OF VANCOUVER

May 16	Muriate of Potash.	34298	M. J. Henry Van-couver.	Victoria Chem. Co., Victoria.		2239
" 16	Fertilizer "B" Grade.	34299	Wm Rennie, Van-couver.	" "		2233
" 16	Bone Meal.....	34300	" "	Portland Seed Co., Portland, Oreg.		2052
" 18	"	34301	Brackman & Ker, Vancouver.	Lilly & Co., Seattle...		222 9
" 18	Fertilizer "B" Grade.	34302	" "	Victoria Chem. Co., Victoria.		2233
" 18	Fish Guano. . . .	34303	" "	Fraser River Fish & Guano Co., Van-couver.		2054
" 18	Fertilizer "D" Grade.	34304	" "	Victoria Chem. Co., Victoria.		2235

DISTRICT OF VICTORIA

May 29	Bone Fertilizer ...	34876	Sylvester Feed Co., Victoria, B.C.	Sylvester Feed Co., Victoria, B.C.		2268
" 29	Whale Fertilizer..	34877	Pacific Whaling Co., Victoria, B.C.	Pacific Whaling Co., Victoria, B.C.		
" 29	Bone Meal.. . . .	34878	" "	" "		
" 30	Fertilizer "B" ...	34879	Brackman & Ker, Milling Co., Vic-toria, B.C.	Victoria Chem. Co., Ltd, Victoria, B.C.		2233
" 30	Salmon Guano....	34880	" "	Fraser River Oil & Guano Co., Ltd, Vancouver, B.C.		2054
June 16	Superphosphate of Lime.	34881	Victoria Chem. Co., Ltd, Victoria, B.C.	Victoria Chem. Co., Ltd, Victoria, B.C.		2236
" 16	Fertilizer "C" ..	34882	" "	" "		2234
" 16	Nitrate of Soda...	34883	" "	" "		2237



SESSIONAL PAPER No. 14

—BULLETIN No. 161.

RESULTS OF ANALYSIS.										
Samples.	Nitrogen, p.c.		Phosphoric Acid, p.c.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.
	Total, including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in Water.	Reverted to Citrate %.	Insoluble.	Total.	Total available.			
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	parts

—J. F. POWER, INSPECTOR—*Cont'd.*

Guarantee	...	...	...	...	...	...	...	50.00	...	50.00
Standard Bull. 151.	...	...	...	...	...	...	...	48.04	...	48.04
As found	...	...	...	...	...	...	...	49.28	0.25	49.28 Up to guarantee.
Guarantee	3.50	...	...	...	...	9.00	...	11.00	...	...
Standard Bull. 151.	2.53	3.08	7.52	0.56	0.42	8.50	8.08	14.06	12.60	32.43
As found	2.84	3.45	7.60	0.21	0.32	8.13	7.81	13.61	8.60	32.71 Up to standard.
Guarantee	3.33	4.04	...	...	...	21.12	15.95	...	...	29.75
Standard Bull. 151.	3.50	4.25	...	...	5.87	21.00	15.13	...	6.05	29.08
As found	3.51	4.27	...	11.45	5.35	16.70	11.45	...	5.00	27.45 Below guarantee in Phosphoric acid.
Guarantee	4.21	...	...	...	...	19.65	...	...	...	...
Standard Bull. 151.	3.21	3.89	...	16.50	9.75	26.25	16.50	...	1.10	31.30
As found	3.95	4.79	...	14.10	7.60	21.75	14.15	...	5.44	30.49 Up to guarantee.
Guarantee	3.59	...	...	...	...	9.00	...	11.00	...	...
Standard Bull. 151.	2.53	3.08	7.52	0.56	0.42	8.50	8.08	14.06	12.60	32.43
As found	2.94	3.57	7.25	0.22	0.26	7.73	7.47	15.00	8.75	34.02 Up to standard.
Guarantee	8.31	10.09	...	...	...	6.32	...	...	6.50	...
Standard Bull. 151.	8.96	10.71	1.00	5.25	1.32	7.57	6.25	...	5.95	36.04
As found	8.44	10.25	0.64	7.85	1.69	10.18	8.49	...	7.90	36.19 Up to guarantee.
Guarantee	2.50	...	...	...	...	10.00	...	11.00	...	...
Standard Bull. 151.	2.07	2.52	7.44	0.54	1.52	9.50	7.98	11.78	12.35	28.80
As found	2.04	2.48	10.65	0.20	trace	10.85	10.85	10.64	18.25	30.58

—D. O. SULLIVAN, INSPECTOR.

Guarantee	4.00	...	...	...	...	24.00	...	...	...	...
Standard	2.14	2.60	...	9.20	4.35	13.55	9.20	...	5.05	18.27
As found	1.99	2.42	...	8.55	6.35	14.90	8.55	...	6.98	17.68 Up to standard.
As found	9.46	11.12	0.23	4.13	2.77	7.13	4.36	...	6.49	35.73 Not registered.
As found	2.98	3.62	...	14.10	14.50	28.60	14.10	...	4.40	29.40
Guarantee	3.50	...	...	...	...	9.00	...	11.00	...	...
Standard Bull. 151.	2.53	3.08	7.52	0.56	0.42	8.50	8.08	14.06	12.60	32.43
As found	3.22	3.91	7.10	0.45	trace	7.55	7.55	12.06	10.42	32.02 Up to guarantee.
Guarantee	8.31	10.09	...	...	...	6.32	...	...	6.50	...
Standard Bull. 151.	8.96	10.71	1.00	5.25	1.32	7.57	6.25	...	5.95	36.04
As found	8.06	9.80	1.00	7.07	1.66	9.73	8.07	...	10.70	35.27
Guarantee	...	...	...	...	...	16.00	...	...	...	...
Standard Bull. 151.	...	...	15.55	4.05	1.15	20.75	19.60	...	...	23.46
As found	...	...	12.00	4.00	3.30	19.30	16.00	...	6.98	19.79
Guarantee	...	...	...	...	...	12.50	...	11.00	...	...
Standard Bull. 151.	...	...	11.20	0.98	0.37	12.55	12.18	12.16	...	26.79
As found	...	...	10.40	0.13	0.30	10.83	10.53	13.22	8.15	25.93 Nearly up to guarantee.
Guarantee	16.00	...	...	...	...	...	...	...	...	54.40
Standard Bull. 151.	12.80	15.54	...	...	...	...	...	...	0.75	43.52
As found	22.96	15.75	...	...	...	...	...	...	1.25	44.06 Up to standard, but not to guarantee.



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FERTILIZERS AS SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	Registered Number.
1908.						

DISTRICT OF VICTORIA

June 16	Sulphate of Pot-ash.	34884	Victoria Chem. Co., Ltd, Victoria, B.C.	German Kali Works Stansfort, Germany..		2238
" 16	Muriate of Potash.	34885	" "	" " .....		2239



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—BULLETIN No. 161.

Samples.	RESULTS OF ANALYSIS.										Remarks and opinion of the Chief Analyst.	
	Nitrogen, p.c.		Phosphoric Acid, p.c.					Potash.	Moisture.	Relative value per ton of 2,000 lbs.		
	Total, including that of nitric acid or ammonia if present.	Total calculated as ammonia.	Soluble in water.	Reverted or Citrate Soluble.	Insoluble.	Total.	Total available.					
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	\$ cts.		

—D. O. SULLIVAN, INSPECTOR—*Concluded.*

Guarantee .....								50 00		50 00	
Standard Bull. 151 .....								47 96		47 96	
As found .....								48 04	1 58	48 04	Up to standard.
Guarantee .....								50 00		50 00	
Standard Bull. 151 .....								48 04		48 04	
As found .....								49 40	3 23	49 40	"



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Date when Analyzed.	Designation.	No. of Sample.	Name and Address of Manufacturer.	By whom sent.	RESULTS OF ANALYSIS.										Relative value per ton of 2,000 lbs.
					Total, including that of nitric acid or ammonia if present.	Nitrogen, p.c.	Phosphoric Acid, p.c.			Potash.	Moisture.				
							Soluble in Water.	Reverted or Citrate Soluble.	Insoluble.			Total.	Total available.		
1908.					p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	\$ cts.	
June 16	Ohlendorffe Basic Slag.	2251	Anglo Continental Co., London, Eng. (late Ohlendorffe)	H. H. McNutt, Lower Truro, N.S.	.....	.....	.....	.....	12.45	6.75	19.2	.....	.....	15.72	
"	Basic Slag (Bilston).	2252	Alfred Hickman & Co., Bilston, Eng.	E. E. McNutt, Truro, N.S.	.....	.....	.....	.....	17.46	.....	21.00	.....	.....	17.15	
"	Crocker's Dissolved Bone Phosphate.	2253	Am. Agr. Chem. Co., Buffalo.	Manufacturers.	0.18	0.22	12.14	15.43	2.3	1.2	15-17	.....	.....	.....	
"	Crocker's High Grade Special Fertilizer.	2254	"	"	1.65	2.3	6-7	.....	1.60	0.70	17.73	10.75	.....	21.10	
"	Sulphate of Potash	2255	"	"	to 2.47	2.23	7.75	.....	2.3	1.2	9-11	4-5	.....	.....	
"	High Grade Ground Blood.	2256	"	"	1.83	.....	.....	.....	1.56	0.89	10.20	13.45	.....	20.13	
"	Kainit	2257	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
"	Muriate of Potash.	2258	"	"	9.84	12.14	.....	.....	.....	.....	.....	.....	.....	.....	
"	Nitrate of Soda	2259	"	"	11.48	13.67	0.11	.....	.....	.....	.....	.....	.....	.....	
"	Pure Ground Bone	2260	"	"	11.26	.....	.....	.....	1.25	0.27	1.63	8.75	.....	37.62	
"	Bone Meal	2261	Buffalo Fertilizer Co., Buffalo, N.Y.	Makers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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SESSIONAL PAPER No. 14

## APPENDIX L.

## BULLETIN No. 162—ICE CREAM.

OTTAWA, September 11, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 145 samples of Ice Cream, obtained by our inspectors during July and August of this year. All the inspectoral districts are represented.

These results show much that is of interest; although they are far from being as complete as could be wished. This is mainly due to unexpected difficulties found in transmitting samples of so perishable an article, in a fit state for analysis.

The employment of some preservative being imperative, I selected formaldehyde, and prescribed its use in the proportion of 5 drops of a 40 per cent solution, to 6 ounces of ice cream.

Eighty samples were received in good enough condition to permit of the determination of fat. Fifty nine samples were spoiled, so far as estimation of fat is concerned, and six others were lost through imperfect packing. Experience shows the necessity of quite filling the bottle, to prevent churning during transit, and to exclude air.

The amount of preservative recommended proved quite sufficient to keep the sample in good condition, in spite of the extremely hot weather of last month. Samples from Nova Scotia on the one hand and Calgary on the other were capable of being worked for fat. But some of our inspectors exhibited gross disregard of instructions, and instead of using 6 oz. bottles, quite filled, as they were expressly told to do, used gem jars, and large bottles, which being only partly filled, permitted the sample to be effectively churned, while the contained air assisted decomposition.

We have no standards for ice cream in Canada. It is evident that the article should consist essentially of frozen cream and sugar; and had we a standard for cream, such standard should be applicable to frozen cream, unless otherwise specified. The United States standard for cream requires a minimum of 18 per cent fat; while for ice cream the minimum required is 14 per cent fat. *Fruit Ice Cream* and *Nut Ice Cream* which respectively contain fruit and nuts, are required to contain a minimum of 12 per cent of butter fat.

Ordinary ice cream is always flavoured either by natural or artificial extracts of various fruits, vanilla, &c. The addition of these extracts to a cream together with the sugar reduces the percentage of fat; and this is taken into account in the standards just mentioned.

When less than 14 per cent of fat is present it is usual to add a stiffening material in addition to the sugar, and this practice seems to be followed by some manufacturers



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even when the fat content is above 14 per cent. The stiffeners most in vogue are gelatine, gelatinized starch and sucrate of lime. The last has not been found in any of the samples here reported.

By the use of a stiffener, it is possible to use a proportionately poor cream, and yet produce an ice cream of apparent good quality. On this account, rather than because of any unwholesomeness in the thickener itself the employment of such thickeners must be regarded as questionable.

The present investigation shows gelatine to be used in 73 of the samples examined, while 27 contain starch. In some cases the starch is present in traces only, and may be due to the freezing apparatus, or other container, having previously been used for a starch-containing product.

Only one sample contained nuts. Most of the samples were uncoloured; and of those which were coloured, only two were dyed by coal-tar products; (35154 and 35158). The remainder were coloured by true fruit juices.

*A propos* of coal-tar dyes in ice cream, I may mention a case recently brought to my notice by Dr. G. P. Girdwood, of Montreal, in which a consumer of artificially coloured (so called strawberry) ice cream, was seriously affected, the symptoms of poisoning persisting for several days. That these dyes are excreted by the kidneys was evidenced by the passing of blood-coloured urine; while the diuretic effect was apparent in the abnormal stimulation of the kidneys. An examination of the dye used convinced me that it is *Ponceau 2 R.* (Sodium Nylidine, Azo-2-Naphthol 3-6 disulphonate,) a colour much used for imitating strawberry, and imported into Canada as 'Strawberry Red.'

Meyer (*Jour. Am. Chem. Soc.* 1907, p. 892) examined this, and some other aniline colours, by experimenting upon dogs, and found that the first dog succumbed to doses of 16 grams of *Ponceau 2 R.* on the seventh day. Another dog took as much as 60 grams which he vomited, but continued to take 5 grams doses for twenty days with no ill effects.

These immense doses would indicate that the very minute amounts employed in foods can hardly be considered toxic. Most of the colouring matter was voided in the faeces, but enough of it passed through the kidneys to give a blood red colour to the urine.

Individuals are often so constituted as to be specially susceptible to the action of certain drugs, which most of us may take with apparent impunity. This brings up the whole question of artificial colours in foods, which has been treated more fully in *Bull.* 83, p. 14. The subject requires fuller investigation than it has yet received.

Of the 80 samples of ice cream received in such condition as to make possible the determination of their fat content, 40 samples contained above 14 per cent, and 40 others contained less than that amount. Of these last, 12 samples contained less than 10 per cent.

I do not feel justified in drawing any general conclusions from the data herein contained; but would respectfully ask that it be published as Bulletin No. 162, as a first contribution to the study of ice cream in Canada. An early opportunity will be taken for further investigation of the subject.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



BULLETIN No. 162—ICE CREAM.

14—12½

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.		Cost.		Inspector's Report.	Results of Analysis.			Remarks and Opinion of the Chief Analyst.
					Quantity.	Value.					
DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.											
1908.											
Aug. 11	Ice Cream	33536	D. R. Ross, Halifax, N.S.	1 pint	20	Vendor	Sample sold as vanilla ice cream.	None.	None.	15.42	Sample in good condition.
"	"	33537	"	"	20	"	Sample sold as strawberry ice cream.	None.	None.	15.64	"
"	"	33538	F. W. Cookson, Halifax, N.S.	"	20	"	Sample sold as vanilla ice cream.	Present.	None.	15.70	"
"	"	33539	Scotia Pure Milk Co., Ltd., Halifax, N.S.	"	20	Vendors	Sample sold as pine apple ice cream.	Present.	None.	15.68	"
"	"	33540	"	"	20	"	Sample sold as strawberry ice cream.	Present.	None.	11.86	"
"	"	33541	J. E. Regan, Halifax, N.S.	"	25	Vendor.	Sample sold as peach ice cream.	None.	None.	11.84	"
"	"	33542	Treas & Co., Halifax, N.S.	"	25	Vendors	Sample sold as vanilla ice cream.	Present.	Present.	9.60	Sample in good condition; of low quality.
"	"	33543	"	"	25	"	Sample sold as vanilla ice cream.	Present.	None.	8.16	"
"	"	33544	Gasparo Poteri, Halifax, N.S.	"	25	Vendor.	Sample sold as vanilla ice cream.	Present.	None.	2.76	Sample in good condition; of very low quality.
"	"	33545	W. Patrick, Halifax, N.S.	"	25	Scotia Pure Milk Co., Halifax, N.S.	Sample sold as vanilla ice cream.	Present.	None.	11.42	Sample in good condition.



BULLETIN No. 162—ICE CREAM.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspectors' Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Gelatine.	Starch.	Total Solids.	Fat.	

DISTRICT OF PRINCE EDWARD ISLAND T. MOORE, INSPECTOR.													
July	15	Ice Cream.	31291	Vincent McIsaac, Souris.	1 pint	30	Vendor.	.....	.....	.....	p. c.	p. c.	Both bottles broken in transit; carelessness in packing.
"	15	"	31292	T. Packard, Souris	1 "	25	"	.....	.....	.....	.....	6.30	"
"	22	"	31293	M. Richards, Murray River.	1 "	25	"	.....	None.	None.	.....	.....	Sample in good condition; of low quality.
"	28	"	31294	E. J. DesRoches, Charlottetown.	1 "	25	"	.....	Present.	None.	.....	.....	Sample in poor condition; fat not determined.
"	28	"	31295	Mills Bros., Charlottetown.	1 "	25	Vendors.	.....	Present.	None.	.....	.....	"
"	28	"	31296	Mrs. W. F. Carter, Charlottetown.	1 "	25	Vendor.	.....	Present.	None.	.....	.....	"
"	30	"	31297	Mrs. J. Vatcher, Charlottetown.	1 "	25	"	.....	None.	None.	.....	10.80	Sample in good condition.
Aug.	3	"	31298	E. Keir, Kensington.	1 "	25	"	.....	Present.	None.	.....	6.10	Sample in good condition; of low quality.
"	4	"	31299	J. J. Gaudet, Summerside.	1 "	25	"	.....	Present.	None.	.....	11.30	Sample in good condition.
"	4	"	31300	J. W. Warren, Summerside.	1 "	25	"	.....	Present.	Present.	.....	10.50	"

DISTRICT OF NEW BRUNSWICK J. C. FERGUSON, INSPECTOR.													
July	28	Ice Cream	29723	Maritime Dairy Co., St. John, N.B.	1 pt	20	Vendors.	.....	None.	None.	..	14.08	Sample in good condition.
"	28	"	29724	T. J. Phillips, St. John, N.B.	1 "	20	Vendor	.....	None.	None.	..	....	Sample in poor condition. Fat not determined.
"	28	"	29725	Frank White Catering Co., St. John, N.B.	1 "	30	Vendors	.....	Present.	Present.	..	21.42	Sample in good condition.



## SESSIONAL PAPER No. 14

"	20	"	29726	A. J. Russell, St. 1 "	20	Vender	.....	Present.	None.	13 58	"	"
"	20	"	29727	John, N.B. Ramsay Bros., St. 1 "	25	Venders	.....	None.	None.	11 06	"	"
Aug. 4	"	"	29728	John, N.B. D. A. Vall, St. 1 "	25	Vender	.....	None.	None.	20 56	"	"
"	5	"	29729	N.B. W. S. Smith, Mone 1 "	30	"	.....	None.	Trace.	12 89	"	"
"	5	"	29730	ton, N.B. Jennie McGee, Mone 1 "	30	"	.....	None.	None.	13 20	"	"
"	13	"	29731	ton, N.B. Checchi Bros., Water 1 "	20	Venders	.....	Present.	None.	8 84	Sample in good condition. Of low quality.	"
"	15	"	29732	St., St. Stephen, N.B. Geo. F. Walker, 1 "	25	Vender	.....	Present.	None.	8 68	"	"
				Frederick, N.B.								

## DISTRICT OF QUEBEC—E BELAND, INSPECTOR.

1908.	July 29	Ice Cream.	34407 R. Langlois, 7 Hall 6 glass.	30	Vender			None.		Sample in bad condition. Fat not determined.
"	29	"	34408 du Palais, Quebec. Lacab, 13 Hall 6 "	30	"			Present.		"
"	29	"	34409 Palais, Quebec. R. Langlois, 15 Hall 6 "	30	"					"
"	29	"	34410 Godeon Du cand, 6 140 Rue St. Joseph, Quebec.	30	"					"
"	29	"	34411 J. D. Valiquet, 104 3 pts. Rue St. Joseph, Quebec.	30	"			None.	Present.	"
"	29	"	34412 A. J. Adun, 138 Rue 6 glass.	30	"					"
"	29	"	34413 A. L. Piquet, 142 6 Rue du Pont, Quebec.	30	"					"
"	29	"	34414 G. L. S. S. & Co., 6 Rue St. Joseph, Quebec.	30	Venders					"
"	29	"	34415 W. M. Williams, 8 6 Rue, 114 Rue St. Joseph, Quebec.	60	"			None.		"
"	29	"	34416 J. B. B., 25 6 St. Joseph, Quebec.	30	Vender					"



BULLETIN No. 162—ICE CREAM.

Date of Receipt.	Name and Address of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
			Quantity.	Price.			Gelatin.	Starch.	Total Solids.	Fat.	

DISTRICT OF ST. HYACINTHE J. C. ROULEAU, INSPECTOR.												
1908.												
July	30 Ice Cream	150 J. S. Guimarães, Marieville.	1 pint	25	Vendor.	.....	.....	Present.	Present.	p.c. 5.93	In good condition. Of very poor quality.	
Aug.	"	151 G. Bergeron, Drummondville.	"	30	"	.....	.....	None.	None.	11.84	In good condition.	
"	"	152 F. W. Savage, Waterville.	1 plates	40	"	.....	.....	None.	None.	17.77	"	
"	"	153 C. H. Welch, Waterville.	"	20	"	.....	.....	Present.	None.	9.35	In good condition. Of poor quality.	
"	"	154 Arthur Villeneuve, McEggs.	"	25	"	.....	.....	None.	Present.	10.86	In good condition.	
"	"	155 M. Pates, Sherbrooke.	1 pint	25	"	.....	.....	None.	None.	17.78	"	
"	"	156 Jos. Bilodeau, Sherbrooke.	"	25	"	.....	.....	Present.	Present.	11.22	"	
"	"	157 A. P. Stashe, Sherbrooke.	"	25	"	.....	.....	None.	None.	16.26	"	
"	"	158 Dion & frères, Hyacinthe.	St 1	35	Vendor as	.....	.....	None.	None.	19.84	"	
"	"	159 P. Thermen, Hyacinthe.	St. 1	25	Vendor.	.....	.....	Present.	None.	4.80	In good condition. Of very low quality.	

DISTRICT OF MONTREAL - J. J. COSTIGAN, INSPECTOR.

July	14 Ice Cream.	32601	Imperial Ice Cream Co., Ltd., Montreal.	1 pint	25	Vendors.	.....	Put up in blocks.	1 pint	None.	None.	40.5	21.7	In good condition.
"	"	32602	J. D. Dandean Co., 218 Mountain St., Montreal.	"	30	"	.....	"	"	Present.	None.	42.3	19.5	



[illegible]

THE UNIVERSITY OF CHICAGO

July	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
July	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
July	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100



BULLETIN No. 162—ICE CREAM.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
				Quantity.	(Cents.			Gelatine.	Starch.	Total Solids.	Fat.	

DISTRICT OF KINGSTON—J. HOGAN, INSPECTOR.

1908.	July	20	Ice Cream	35255	S. Leverin, Kingston.	1 pt ...	20	Vendor	.....	Present.	None.	p. c.	p. c.	Sample in bad condition. Fat not determined.
"	"	20	"	35256	J. Frasso, "	1 " ...	20	"	.....	Present.	None.	.....	.....	"
"	"	20	"	35257	V. Handell, "	1 " ...	20	"	.....	Present.	Present.	.....	.....	"
"	"	20	"	35258	H.F. Prices, "	1 " ...	25	H.F. Prices, Kingston	.....	Present.	None.	.....	.....	"
"	"	20	"	35259	Geo. Masond, "	1 " ...	20	Vendor	.....	Present.	None.	.....	.....	"
"	"	20	"	35260	H. Jarvis, "	1 " ...	25	"	.....	None.	None.	.....	.....	"
"	"	20	"	35261	J. McLaughlin, Kingston.	1 " ...	20	"	.....	Present.	None.	.....	.....	"
"	"	20	"	35262	T. Peters, Kingston.	1 " ...	20	"	.....	None.	None.	.....	.....	"
"	"	20	"	35263	A. J. Rees, "	1 " ...	25	"	.....	Present.	None.	.....	.....	"
"	"	20	"	35264	G. W. Mahood, Kingston.	1 " ...	25	"	.....	Present.	None.	.....	.....	"

DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

Aug.	5	Ice Cream.	35154	L. O. Boist, Hamil- ton.	1 pt ...	20	Vendor	.....	.....	None.	None.	.....	13.71	In good condition. Contains coal tar dye.
"	5	"	35155	The Pure Milk Co., Ltd., Hamilton.	1 " ...	20	Vendors	.....	.....	None.	None.	.....	14.85	In good condition.
"	5	"	35156	Burke Bros., Hamil- ton.	1 " ...	20	"	.....	.....	None.	Present.	.....	13.05	"



SESSIONAL PAPER No. 14

"	5	"	33157	D. M. Laid, Oshawa, Ont.	20	Vendors	Present.	Present.	8 00	In good condition. quality.	Of poor
"	5	"	33158	M. J. Giblin, Oshawa, Ont.	20	"	Present.	None.	8 97	In good condition. quality. Coal tar dye.	Of poor
"	8	"	33159	Chas. Lod, Whitby, Ont.	20	"	Present.	Present.	15 59	In good condition.	
"	13	"	33160	Wm. Neilson, Ltd., Oshawa, Ont.	15	Vendors	Present.	None.		In poor condition. determined.	Fat not
"	13	"	33161	City Dairy Co., Ltd., Toronto.	25	"	None.	None.	20 24	In good condition.	
"	13	"	33162	S. Price & Sons, Ltd., Toronto.	20	"	None.	None.		In poor condition. determined.	Fat not
"	13	"	33163	Union Dairy Co., Toronto.	20	"	Present.	None.	10 76	In good condition.	

DISTRICT OF LONDON T. KIDD, INSPECTOR.

July	20	Ice Cream	33949	Oscar Neill, Seaforth, Ont.	20	Vendors	Present.	None.		In poor condition. determined.	Fat not
"	20	"	33950	Chas. Abraham, Seaforth, Ont.	20	"	Present.	None.		"	"
"	21	"	33958	Chas. Gough, Stratford, Ont.	20	"	None.	Present.		"	"
"	22	"	33960	J. W. Palmer, Hensall, Ont.	20	"	Present.	Present.		"	"
"	23	"	33965	G. McLennan, Clinton, Ont.	20	"	Present.	None.		"	"
"	29	"	33966	S. G. S. Kirk, Bruce, Ont.	15	"	None.	None.		"	"
"	31	"	33972	Frank H. Smith, St. Marys, Ont.	15	"	None.	None.	18 94	In good condition.	
"	31	"	33974	Mrs. Harvey Tuer, St. Marys, Ont.	20	"	Present.	None.	14 52	"	
"	31	"	33975	Mrs. Smith, St. Marys, Ont.	20	"	None.	Present.	17 60	"	
"	31	"	33976	Bush & Co., St. Marys, Ont.	20	Vendors	None.	None.	11 66	"	

DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR.

July	16	Ice Cream	34578	Peet Hurdless, Leamington, Ont.	20	Vendors	Present.	None.		In poor condition. determined.	Fat not
"	16	"	34579	Peet Hurdless & Son, Leamington, Ont.	15	Vendors	None.	None.		"	"
"	17	"	34580	C. J. Leach, Leamington, Ont.	20	Vendors	Present.	Present.		"	"



BULLETIN No. 162—ICE CREAM.

Date of Collection	Name of Sample	No. of Sample	Name and Address of Vendor	Cost.		Name and Address of Manufacturer or Purchaser as given by Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.	
				Quantity.	Cost.			Glutamine.	Starch.	Total Solids.		Fat.
DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR. Concluded.												
1908										p. c.	p. c.	
July 21	Ice Cream	33184	John Howe, Stanley.	Port 3 bots	25	Vendor.	.....	Present.	None.	.....	.....	In poor condition. Fat not determined.
" 21	"	33185	A. Herick, Stanley.	Port 3 "	25	"	.....	Present.	None.	.....	.....	" "
" 21	"	33186	Alfred Hall, Stanley.	Port 1 "	50	"	.....	Present.	None.	.....	.....	" "
DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.												
July 28	Ice Cream	33182	D. Cassels, Portage La Prairie.	Portage 1 pint	25	Vendor.	.....	None.	None.	.....	20 58	In good condition.
" 28	"	33183	T. T. Bailey, Portage La Prairie.	Portage 1 "	25	"	.....	Present.	None.	.....	.....	In poor condition. Fat not determined.
" 28	"	33184	A. W. Belshan, Portage La Prairie.	Port 1 "	25	"	.....	Present.	Present.	.....	.....	" "
" 29	"	33185	Wm. Argard, Brandon.	Brandon 1 "	25	"	.....	Present.	None.	.....	.....	" "
" 29	"	33186	Primeau & Co., Brandon.	Brandon 1 "	25	Vendors	.....	None.	None.	.....	.....	" "
" 30	"	33187	Wm. Borge, 45-47 Gertie St., Winnipeg.	Winnipeg 1 "	40	Vendor.	.....	Present.	None.	.....	.....	" "
" 31	"	33188	W. R. Milton, 246 Main St., Winnipeg.	" 1 "	20	"	.....	Present.	None.	.....	.....	" "
" 31	"	33189	The Crescent Creamery Co., Winnipeg.	" 1 "	.....	Vendors	.....	Present.	None.	.....	.....	" "
Aug. 1	"	33190	Julius Bros., 594 Main St., Winnipeg.	" 1 "	25	"	.....	None.	None.	.....	13 33	In good condition.
" 1	"	33191	"	" 1 "	15	"	.....	None.	None.	.....	17 70	" "



TRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

Aug.	13	Ice Cream	35296 Owen H. Batt, Calg. 1 pt	40 Vendor	None	Present	19 22 Sample in good condition.
"	17	"	35297 H. R. McKinnon, 1 Calg.	30 "	None	None	11 48 " "
"	17	"	35308 W. H. Deby, Melb 1 Calg. Hat.	20 "	None	Trace.	16 96 " "
"	23	"	35309 Ross H. Muz, Co., 1 Edmonton.	25 Vendors	Present.	Trace.	12 88 " "
"	25	"	35310 Hatcher & Alhulda, 1 Edmonton.	30 "	None	None	19 36 " "
"	27	"	35346 Rodion Pines, whole Calg.	30 "	Present	Trace.	13 46 " "
"	27	"	35347 Mrs. Sturte, Calg. 1 "	30 Vendor	Present	None	23 88 " "
"	27	"	35348 Rodion Bros., whole, 1 Calg.	30 Vendors	Present	Present	14 70 " "
"	27	"	35349 Mrs. E. D. D. whole, 1 Calg.	30 Vendor	None	None	17 16 " "
"	27	"	35350 J. Arvell, Calg. 1 "	30 "	None	None	Both bottles broken in transit.

DISTRICT OF VANCOUVER—J. F. POWELL, INSPECTOR.

Aug.	12	Ice Cream	34340 Richmond Dairy Co., 1 pt Vancouver	25 Vendors	Present.	None	Both samples broken, due to bad packing. Fat not determined.
"	12	"	34341 R. A. Crawford, 1 Vancouver.	25 Richmond Dairy Co	Present.	None	In poor condition. Fat not determined.
"	12	"	34342 Chas. Nelson, Van-1 Vancouver.	25 Almond Creamery Co., Vancouver.	Present	None	" "
"	12	"	34343 The Sp. Candy Co., 1 Vancouver.	25 Vendors	None.	Present	12 80 In good condition.
"	12	"	34344 Dicks Confectionery 1 Shop, Vancouver.	25 "	None.	None	15 66 " "
"	12	"	34345 Maurel & Ried, 1 Vancouver.	25 "	Present	None	In poor condition. Fat not determined.
"	12	"	34346 Royal Canine Pastry, Vancouver	"	Present	None	19 02 In good condition.
"	14	"	34347 A. Hamilton, Van-1 Vancouver	Vendor.	None.	None	In poor condition. Fat not determined.
"	14	"	34348 City Dairy Co., Van-1 Vancouver	25 Vendors	Present	None	" "
"	14	"	34349 Woodwards Dept. 1 Shop, Vancouver.	25 Almond Creamery Co., Vancouver.	None.	Present	11 24 In good condition.



ICE CREAM—BULLETIN No. 162—Concluded.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
				Quantity.	(Cents.)			Relative.	Starch.	Total Solids.	Fat.	
DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR.												
1908.												
July 28	Ice Cream		34930 Hall & Co., Victoria.	1 pt ...		25 Vendors.	.....	None.	None.	p. c. ....	p. c. 16.92	In good condition.
" 30	"		34931 G. H. Larrigan, Victoria.	1 " ....		25 Royal Dairy, Victoria	.....	Present.	None.	.....	....	In poor condition. Fat not determined.
" 30	"		34932 H. A. Lilly, Victoria	1 " ....		25 Vendor .....	.....	.....	.....	.....	.....	Bottle samples broken, due to careless packing.
" 30	"		34934 R. H. Mould, Victoria.	1 " ....		50 Royal Dairy, Victoria	.....	None.	None.	.....	.....	In poor condition. Fat not determined.
" 30	"		34935 A. Westendale, Victoria.	1 " ....		50 " "	.....	Present.	None.	.....	.....	" "
" 30	"		34938 J. Paula, Victoria ..	1 " ....		50 " "	.....	.....	.....	.....	.....	Both bottles broken, due to careless packing.
" 30	"		34939 Victoria Creamery Assoc., Victoria.	1 " ....		20 Vendors .....	.....	Present.	None.	.....	.....	In poor condition. Fat not determined.
" 31	"		34974 Harcop & Antipas, Victoria.	1 " ....		45 " "	.....	Present.	None.	.....	.....	" "
" 31	"		34975 V. Stramtares, Victoria.	1 " ....		50 " "	.....	Present.	None.	.....	.....	" "

DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR.







APPENDIX M.

BULLETIN No. 163—PICKLES.

OTTAWA, September 21, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I have the honour to hand you a report of work upon 149 samples of pickles collected throughout the various inspectoral districts of Canada in July and August last.

With two exceptions, the vegetables were found to be in good condition. Both of the exceptional cases were evidently prepared with very weak vinegar, or the vegetables contained so much water as to dilute this, to respective strengths of 1·02 and 0·61 per cent of acetic anhydride.

The acetic strength of the vinegar present in these samples was found to be as follows :—

	Samples.
Above 3 per cent anhydride. ....	14
Between 3 and 2·5 p.c. " .....	26
"    2·5 and 2·0 "    " .....	50
"    2·0 and 1·5 "    " .....	49
"    1·5 and 1·0 "    " .....	8
Below 1 per cent. " .....	2
<hr/>	
Total.....	149

Alum is said to be sometimes employed to harden the vegetables, as well as to give them better keeping qualities, and to permit of the use of a weaker vinegar. All the samples were examined for soluble alumina, with the following results :—

	Samples.
Soluble Alumina absent in.....	124
"    "    present in .....	25
<hr/>	
Total.....	149

It would not, however, be safe to infer the use of alum in every case in which a reaction for alumina was obtained. Owing to the prone habit of cucumbers, and the liability to take up, in the creases of the pericarp, minute particles of clay, and further to the possibility of a slight solubility of such clay by prolonged contact with acetic acid, it may be that, where merely traces of alumina were found, these may be accounted for, as above suggested. It is however, noteworthy that 124 samples gave no reaction with tests for alumina. This fact seems to warrant the conclusion that, where *distinct* traces of alumina are found in solution, the use of alum is indicated.

The only preservatives found (other than the vinegar) were salicylic acid and sulphurous acid, the latter probably used as acid sulphite of lime. Twelve (12) samples gave reactions for salicylic acid ; 137 samples gave no reaction.

Twelve (12) samples gave reactions for sulphurous acid. Of this number, 4 were prepared with mustard (so called Chow-Chow). In view of the fact that mustard con



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tains sulphur, which might under certain conditions (e.g. boiling with saltpetre) yield sulphurous acid, it is important to note that six (6) other samples of this class of pickle gave no reactions for sulphurous acid.

Sulphurous acid or a sulphite, may be employed either or both for the purpose of bleaching certain vegetable tissues (cauliflower, onion, &c.), and as a preservative. Of course different manufacturers have different methods of working; and the objects aimed at by various trade practices, can only be surmised by an outsider.

This is the first occasion upon which pickles have been examined in this laboratory. We have no standard defined for this article of food, nor is it easy to formulate such. The United States Standards of 1906, define pickles as 'clean, sound, immature cucumbers, properly prepared, without taking up any metallic compound other than salt, and preserved in any kind of vinegar, with or without spices; *pickled onions*, *pickled beets*, *pickled beans*, and other pickled vegetables, are vegetables prepared as described above and conform in name to the vegetable used.'

The present report must be regarded as a first contribution to the study of pickles, as found on Canadian markets.

I beg to recommend its publication as Bulletin 163.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



BULLETIN No. 163—PICKLES.

Date of Collection.	Nature of Sample.	No. of Samples.	Name and Address of Vendor.		Cost.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.		RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.		
			Name and Address of Vendor.	(Quantity.)		(Costs.)	Inspector's Report.	Acetic anhydride per 100 cc.			Alum.		Preservatives.	
DISTRICT OF NOVA SCOTIA R. J. WAUGH, INSPECTOR.														
1908.														
Aug.	4 Bottled Pickles	33511	Wm. Smith, Kentville, N.S.	3 bts.	40	Canada Pickling Co., Toronto.	Bull Dog Brand.	2.24	Trace in ash.	Sulphurous acid. 0.007 per 100 cc.		Mixed pickles. Vegetables sound and firm.		
"	"	33512	J. Lynch & Sons, Windsor, N.S.	3 "	45	Lipton, London, Eng.	Lipton's Mixed Pickles.	3.37	None.	None.		"		
"	"	33513	J. S. Creed, Halifax, N.S.	3 "	45	"	Lipton's Chow.	2.75	None.	None.		Chow Chow. Vegetables sound and firm.		
"	8 Bulk Pickles	33514	C. E. Choat, Halifax, N.S.	2 lbs.	36	Heinz, U.S.	Sweet Pickles.	1.84	Trace in ash.	None.		Mixed pickles. Vegetables sound and firm.		
"	"	33515	City Provision Store, Halifax, N.S.	2 "	30	"	"	1.91	Trace in ash.	None.		"		
"	"	33516	D. H. Dodge, Kentville, N.S.	2 "	20	H. A. Moore, Wolfville, N.S.	Mixed Pickles.	1.58	None.	None.		Pickles. Vegetables sound and firm.		
"	4 Bottled Pickles	33517	S. L. Cross, Kentville, N.S.	3 bts.	60	Heinz, U.S.	Heinz Mixed Pickles.	3.36	None.	None.		Mixed pickles. Vegetables sound and firm.		
"	5 Bulk Pickles.	33518	Curry Bros., Sydney, N.S.	2 lbs.	38	"	Mixed Pickles.	2.01	Trace in ash.			"		
"	"	33519	E. B. Tracy, Halifax, N.S.	2 "	36	"	Bulk Chow Chow.	2.55	None.	Sulphurous acid. 0.025 per 100 cc.		Chow Chow. Vegetables sound and firm.		
"	7 Bottled Pickles	33520	O'Neil & Mulcahy, Halifax, N.S.	3 bts.	30	Johnston, Baird & Baird's Co., Glasgow, N.S.	second to none.	2.65	None.	None.		Mixed pickles. Vegetables sound and firm.		



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## DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.

14	July	15 Bottled Pickles	31326	Mathew & McLean, 3 bots	36	Flatts, Liverpool.	Choice family pickles carefully packed with select vegetables and pure vinegar	1 68	None.	Salicylic acid.	Mixed pickles, Vegetables sound and firm.
13	"	"	31327	Geo. Rackham, Charlottetown.	36	Chas. Heaton & Co., London.	"	1 78	None.	None.	"
"	"	"	31328	A. M. Ross, Murray River.	75	C. Heaton & Co., London.	"	1 78	None.	None.	"
"	"	"	31329	P. A. Smith, Charlottetown.	42	The Ozo Co., Ltd., Montreal.	Superior quality mixed pickles	2 14	None.	Traces of Salicylic acid.	"
Aug.	3	"	31330	Wm. Callbeck, Charlottetown.	60	Rowatt & Co., Liverpool & Glasgow.	Rowatt's superior pickles in pure vinegar.	2 30	None.	None.	"
July	20	Bulk Pickles.	31331	James Kelly, Charlottetown.	25	H. J. Heinz, Pittsburgh, U.S.	"	2 55	None.	None.	Pickles. Vegetables sound and firm.
"	20	"	31332	J. H. Myrick, Charlottetown.	25	J. Winsor & Son, Boston, Mass.	"	2 45	None.	Sulphurous acid, 0.007 per 100 cc.	Chow Chow. Vegetables sound and firm.
"	27	"	31333	J. McQuaid, Charlottetown.	36	H. J. Heinz, Pittsburgh, U.S.	This sample of pickles is sweet.	1 98	Present in ash.	None.	Mixed pickles. Vegetables sound and firm.
Aug.	4	"	31334	F. W. Strong, Summerside.	25	Hudson, Hebert & Co., Montreal.	"	2 19	None.	None.	"
"	4	"	31335	R. T. Holman, Summerside.	25	The Ozo Co., Ltd., Montreal.	"	1 10	None.	None.	"

## DISTRICT OF NEW BRUNSWICK J. C. FERGUSON, INSPECTOR.

July	18	Bottled Pickles	29758	G. A. Troop & Co., St. John, N.B.	60	Vendors	Acme Brand	2 65	None.	None.	Mixed pickles, Vegetables sound and firm.
Aug.	6	"	29760	Thos. Russell, Newcastle, N.B.	45	The Ozo Co., Ltd., Montreal.	Superior quality mixed pickles	3 18	None.	None.	"
"	7	"	29761	A. H. Marquis, St. John, N.B.	60	A. T. Randolph & Son, Fredericton, N.S.	Mixed Pickles.	2 80	None.	None.	"
"	13	"	29762	Fred. E. Ross, Stephen, N.B.	30	The Excelsior Vinegar Co., St. John, N.B.	Old stock mixed pickles. Sold as received.	2 00	None.	None.	"
July	18	Bulk Pickles	29763	Geo. A. Troop & Co., St. John, N.B.	60	Vendors	Bottles filled from bulk pickles in factory.	2 95	None.	None.	"
"	23	"	29764	P. M. Cross, St. John, N.B.	30	H. J. Heinz & Co., Pittsburgh, U.S.	Heinz Sour Pickles.	2 85	None.	None.	"



BULLETIN 163—PICKLES.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Acetic anhydride (per 100 cc.	Alum.	Preservatives.	

DISTRICT OF NEW BRUNSWICK--J. C. FERGUSON, INSPECTOR--Concluded.

1908.											
July	24	Bulk Pickles....	29765	W. R. Small, St. John, N.B.	1	40	Baird & Peters, St. John, N.B.	Heinz 2,000 Sweet Gherkins.	1.68	None.	Mixed pickles. Vegetables sound and firm.
Aug.	4	"	29766	Sussex Mercantile Co., Ltd., Sussex, King's Co., N.B.	1	30	"	Heinz 3,000 Sweet Pickles.	1.89	Trace in ash.	"
"	14	"	29767	E. G. Hoben, Fred. Ericson, N.B.	1	20	Ozo Co., Montreal, Canada.		2.00	None.	Pickles. Vegetables sound and firm.
"	18	Bottled Pickles	29768	John Graham Estate, Woodstock, N.B.	3 bots.	75	C. & E. Morton, Leadenhall St., London.	Labelled, Mixed Pickles.	2.14	None.	Mixed Pickles. Vegetables sound and firm.

DISTRICT OF QUEBEC E. BELAND, INSPECTOR.

July	16	Bottled Pickles.	26473	Mederic Baie St. Paul.	Tramblay, 3 bots.	39	Whitead & Turner, Que.		2.04	None.	Mixed pickles. Vegetables sound and firm.
"	16	"	26474	Arcene Larouche, Baie St. Paul.	3	75	"		1.68	None.	"
"	16	"	26475	Juste Jean, Baie St. Paul.	3	30	Bedard & Frère, Que.		2.70	None.	"
"	17	"	26478	Philippe Gagnon, Baie St. Paul.	3	48	Whitead & Turner, Que.		2.19	None.	"
"	17	"	26481	Benjamin Simard, Baie St. Paul.	3	30	Nazaire Turcotte & Cie, Que.		2.45	None.	"
"	24	Bulk Pickles	26490	Joseph Falardeau, 271 Rue St. Joseph, P.Q.	1 quart.	15	Ozo, Montreal		2.37	None.	"
"	24	"	26491	"	1	15	Heinz, Pittsburg, U.S.		1.63	Trace in ash.	Pickles. Vegetables sound and firm.



"	24	"	26494 J. C. Delage, 308 Rue 1 <sup>re</sup> St. Joseph, Que.	"	30	Ozo, Montreal	3 16	None	None	Mixed pickles. Vegetables sound and firm.
"	24	"	26496 Moise Paulott, 367 1 <sup>re</sup> Rue St. Joseph, P.Q.	"	20	"	2 95	None	None	"
"	24	"	26498 Alphonse Laroché, 120 Rue Dorchester St., P.Q.	"	20	Yonker	1 94	None	None	"

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DISTRICT OF ST. HYACINTHE. J. C. ROULEAU, INSPECTOR.

July	29	Bottled Pickles	185 R. Dubrouil, St. Charles	35			1 73	None	Sulphuric acid	Mixed pickles. Vegetables sound and firm.
"	30	"	186 H. F. Desmarais, 3 <sup>re</sup> Marieville.	90 H. J. Henz & Co., Pittsburg, U.S.A.			2 44	None	None	Chow Chow. Vegetables sound and firm.
Aug.	5	"	187 W. Murray & Co., 3 <sup>re</sup> Sherbrooke.	45 R. Road Packing Co., Montreal.			2 04	Present.	Sulphurous acid.	Mixed pickles. Vegetables sound and firm.
"	6	"	188 Jos. Leperance, 146 <sup>re</sup> Megantic	1 05 Cruse & Blackwell, London, Eng.			3 31	None	None	Chow Chow. Vegetables sound and firm.
"	11	"	189 Chas. Plante Sorel, 3 <sup>re</sup>	30 Mfg. at 49 Plessis St., Montreal.			1 78	None	Sulphurous acid.	Mixed pickles. Vegetables sound and firm.
"	4	Bulk Pickles	190 Gosselin & Paradis, 14 <sup>re</sup> Mazog	25 The Ozo Co., Ltd., Montreal.			2 04	Trace in ash.	Trace of sulphuric acid.	"
"	5	"	191 Couture & Moore, 1 <sup>re</sup> Sherbrooke.	13 Not known.			1 02	"	None	Mixed pickles. Vegetables mouldy.
"	10	"	192 E. Barout, St. Hyacinthe.	20 J. V. Bombardier, Montreal.			1 58	"	Sulphuric acid	Mixed pickles. Vegetables sound and firm.
"	20	"	193 F. Giroux, St. Jean, P.Q.	20 H. Chappeaud, St. Joseph.			1 73	"	None	Pickles. Vegetables sound and firm.
"	21	"	194 J. B. Nadeau, Farm 11 <sup>re</sup> ham.	16 The Ozo Co., Ltd., Montreal.			1 58	"	None	Mixed pickles. Vegetables sound and firm.

DISTRICT OF MONTREAL. J. J. GOSPIGAN, INSPECTOR.

July	16	Bottled Pickles.	32636 Ozo Co., Ltd., Montreal.	25	Various	1 absent in pickled - over in pickled for sulphuric acid.	2 67	None	None	Mixed pickles. Vegetables sound and firm.
"	16	"	32637 J. O. Proulx & Co., 3 <sup>re</sup> Plessis St., Montreal.	70	"		2 37	None	Sulphurous acid.	"
"	17	"	32638 O. O. Gagnon, 1 <sup>re</sup> Wellington St., Montreal.	30 H. Bozique & fils, Montreal.			2 73	None	None	"



BULLETIN No. 163—PICKLES.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.		Quantity.	Cost.	Name and Address of Manufacturer or Furnisher as given by the Vendor.		RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.	
							Acetic anhydride per 100 cc.	Alum.	Preservatives.				
DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR—Concluded.													
1908.													
July 30	"	32639	A. Lagarde, 549 Notre Dame West, Montreal.	3	"	30	Sugars & Cannery Ltd., Montreal.	Oval Brand.	1.73	None.	None.	None.	Mixed pickles, Vegetables sound and firm.
" 31	"	32640	W. Deborne, 990 Ontario East, Montreal.	3	"	45	The T. A. Lyttle Co., Ltd., Toronto.	Sterling Brand.	2.24	None.	None.	"	"
" 16 Bulk Pickles		32641	Ozo Co., Ltd., Montreal.	1 qt		25	Vendors	Sample taken from packed stock.	1.58	None.	None.	"	"
" 16	"	32642	J. A. Perrault & Co., Montreal.	1	"	25	"	"	1.66	None.	None.	"	"
" 28	"	32643	J. D. Boileau, 54 Bonsecours st., Montreal.	1	"	20	Not known.	"	3.00	Present.	None.	"	"
" 29	"	32644	M. F. Lafortune, 168 St. Maurice st., Montreal.	1	"	25	J. A. Perrault & Co., Montreal.	"	2.09	None.	Sulphurous acid.	"	"
" 29	"	32645	The Wm. Davies Co., Ltd., Chabouzelet Square, Montreal.	1	"	30	Vendors	"	1.78	None.	None.	"	"
DISTRICT OF OTTAWA—J. A. RICEY, INSPECTOR.													
July 11 Bottled Pickles.		22679	Coburn & Co., Pembroke, Ont.	3	bots	38	The Wm. Davies & Co., Ltd., Toronto, Ont.	Spiced Mixed Pickles.	2.24	None.	None.	None.	Mixed pickles, Vegetables sound and firm.
" 14	"	22680	Mrs. E. E. Harkness, Iroquois.	3	"	30	J. A. Perrault & Co., Montreal.	Select Home brand Pickles, mfg. at 40 Plessis St., Montreal.	2.29	None.	None.	"	"



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"	18	"	"	22681 John Simpson & Son, 3 Alexandra.	45	Carter, Galbraith & Son, Montreal.	2 04	None.	"	"
"	23	"	"	22682 J. W. McDonald, 3 Carleton Place.	75	Holbrook, Ltd., Toronto.	3 67	None.	"	"
"	25	"	"	22683 J. H. Shaw, Shaw 3 ville, P.Q.	45	Suggs & Cantiers, Ltd., Montreal.	1 88	None.	"	"
"	22	Bulk Pickles	"	22684 D. A. Youngblood, 1 qt. Elgin St., Ottawa, Ont.	30	T. A. Lytle & Co., Toronto.	1 78	None.	"	"
"	22	"	"	22685 Lavigne Bros., Cor 1 Queen & Bridge Sts., Ottawa, Ont.	15	F. J. Cuth & Co., Ottawa.	2 00	None.	Salicylic acid.	"
"	22	"	"	22686 Kennedy & Co., 1 Wellington St., Ottawa, Ont.	20	T. A. Lytle & Co., Toronto.	2 19	None.	None.	"
"	24	"	"	22687 A. P. Johnson, Bro 1 son Ave., Ottawa, Ont.	30	Homz....	1 83	None.	None.	"
"	24	"	"	22688 Ellis Bros., Bronson 1 Ave., Ottawa, Ont.	35	....	1 73	None.	None.	"

DISTRICT OF KINGSTON. J. HOGAN, INSPECTOR.

July	20	Bottled Pickles.	35285 Kelly Bros., Kings 3 bats ton.	45	T. A. Lytle & Co., Toronto.	2 04	None.	None.	Mixed pickles. Vegetables sound and firm.
"	20	"	35286 J. McCulla, Kings 3 ton.	45	Canada Pickling Co., Toronto.	2 29	None.	Sulphurous acid.	"
"	21	"	35287 Anderson Bros., 3 Kingston.	30	"	2 00	None.	Sulphurous acid.	"
"	21	"	35288 C. H. Pickering, 3 Kingston.	45	H. J. Homz, Pitts burgh, U.S.	2 65	None.	Sulphurous acid.	Chow. Vegetables sound and firm.
"	21	"	35289 C. Sunderson, Kings 3 ton.	45	C. Williams, Toronto	1 73	None.	None.	Mixed pickles. Vegetables sound and firm.
"	20	Bulk Pickles.	35290 James Redden, 1 qt. Kingston.	15	H. Leach, Guelph	2 14	None.	None.	"
"	20	"	35291 J. McCulla, Kings 1 ton.	35	T. A. Lytle & Co., Toronto.	2 00	None.	None.	"
"	21	"	35292 Anderson Bros., 1 Kingston.	20	"	0 61	None.	None.	Mixed pickles. Vegetables mouldy. Another bottle of this brand was sound.
"	21	"	35293 C. H. Pickering, 1 Kingston.	30	H. J. Homz, Pitts burgh, U.S.	1 78	None.	None.	Mixed pickles. Vegetables sound and firm.
"	21	"	35294 J. Cullen, Kingston, 1 ton.	20	T. A. Lytle & Co., Toronto.	2 60	None.	None.	"



BULLETIN 163—PICKLES.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.		Quantity.	Cost.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
								Acetic anhydride per 100 cc.	Alum.	Preservatives.		
DISTRICT OF TORONTO H. J. DAGER, INSPECTOR.												
July 29	Bottled Pickles	35124	John Callicott, Queen St. West, Toronto.	30	John Callicott, Toronto.		The Genuine John Bull Pickles.	1 94	Present.	Salicylic acid.		Mixed pickles, Vegetables sound and firm.
Aug. 5	"	35125	J. L. Brown, Mc-Nabb St. North, Hamilton.	60	Thos. Lipton, Kent, London, England.		Lipton's Choice Mixed Pickles.	3 57	None.	None		"
" 7	"	35126	Willard & Co., Queen St., Port Perry.	45	Canada Pickling Co., Toronto.		Mixed pickles, Keystone Brand.	2 09	None.	None		"
" 7	"	35127	C. H. Crysdale & Son, Simcoe St., Oshawa.	45	H. J. Heinz Co., Pittsburgh, U.S.		Heinz Mixed Pickles.	2 96	None	None		"
" 8	"	35128	Mathison Bros., Dundas St., Whitby.	75	Maconochie Bros., Ltd., London, Eng.		Maconochie's Extra Special Pickles.	2 70	None.	None.		"
July 28	Bulk Pickles	35129	The Wm. Davies Co., Ltd., Market Branch, Toronto.	25	The Wm. Davies Co., Ltd., Toronto.			1 68	None.	None.		"
" 28	"	35130	The T. A. Lyttle Co., Ltd., Sterling Road, Toronto.	25	Vendors			1 94	None.	None.		"
" 31	"	35131	Welsh & Co., St. Catharines.	15	The Ozo Co., Ltd., Montreal, Que.		Labelled, Mixed Pickles, Lion L. Brand.	1 71	None.	None.		"
Aug. 4	"	35132	G. Aute, Mary St., Hamilton.	15	Vendor			1 58	Trace in ash.	None.		"
" 11	"	35133	T. H. Taylor, Niagara Falls.	25	H. J. Heinz Co., Pittsburgh, U.S.			1 86	"	None.		"



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## DISTRICT OF LONDON—T. KIDD, INSPECTOR.

July 15 Bottled Pickles	20942 P. J. Dean, Goderich 3 bots	45 H. P. Eckart, Toronto.	2 35	None	None	Mixed pickles. Vegetables sound and firm.
" 16 "	30943 Peter Dill, Dublin 3 "	30 John Sloan & Co., Toronto.	2 80	None	Salicylic acid.	Mixed pickles. Vegetables sound and firm.
" 16 "	30945 T. J. Molyneaux, Dublin. 3 "	45 M. Masurel, London.	2 04	None	None	" "
" 21 Pickled Olives	30954 John W. Lloyd, Stratford. 3 "	30 Canada Spice & Grocery Co.	0 07	None	None	Pickled olives. Vegetables sound and firm.
" 21 Bottled Pickles	30955 Walsh Bros., Stratford. 3 "	45 David A. Hay, Toronto.	1 94	None	None	Mixed pickles. Vegetables sound and firm.
" 22 Bulk Pickles	30961 Carling Bros., Exeter 1 quart	30 Edward Adams, London.	1 63	Present.	None	" "
" 22 Bottled Pickles	30963 Jones & Clark, Exeter 3 bots	45 A. M. Smith Co., London.	1 43	None	None	" "
" 23 Bulk Pickles	30964 William Linden, Clutton. 1 quart	20 Not known	2 45	None	None	" "
" 29 Bottled Pickles	30967 George Thompson, Brussels. 3 bots	45 "	2 00	None	None	" "
" 31 Bulk Pickles	30971 J. M. Adams, St Marys. 1 quart	40 H. P. Eckart & Co., Toronto.	2 00	None	None	" "

## DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR.

Aug. 11 Bottled Pickles	34591 John Dupres, London 3 bots	30 Canada Packing Co., Toronto.	1 88	None	Salicylic acid	Mixed pickles. Vegetables sound and firm.
" 12 "	34593 G. T. Carley, Lambeth. 3 "	40 " "	2 44	None	Salicylic acid	"how Chow. Vegetables sound and firm.
" 12 "	34594 Parle & Son, Lambeth. 3 "	45 Lee, Singapore	1 63	None	None	Mixed pickles. Vegetables sound and firm.
" 13 "	34596 J. C. Best, Strathroy 3 "	30 J. C. Williams & Co., Toronto	1 28	None	None	Mixed pickles. Vegetables sound and firm.
" 13 Bulk Pickles	34597 Wm. Cross, Strathroy 3 jars	67 H. J. Heinz, Toronto	1 22	Trace in ash.	None	" "
" 14 "	34602 J. P. Rogers, St Marys. 3 "	45 Cross Co., Montreal	2 12	None.	None	" "
" 28 "	34605 Alfred Delage, Chatham. 3 "	45 Chas. Deane, Newmarket.	2 09	None.	None	" "
" 28 "	34606 Wm. Anderson, Chatham. 3 "	47 Heinz Packing Co., Toronto.	1 83	None	None	" "
" 28 "	34607 " " 3 "	62 " " Sweet pickles	2 04	Present.	None	" "







DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

Aug. 17	Bottled Pickles.	33331 Spencer & Todd, 3 bots .. Medicine Hat.	75 H. J. Heinz & Co., Pittsburgh, U.S.A.	2 65	None	None	Mixed pickles, Vegetables sound and firm.
" 19	"	33332 Hudson Bay Co., 3 " .. Lethbridge.	90 Unknown	3 00	None	None	"
" 22	"	33333 Wilkin & Jones, Fort 3 " .. Saskatchewan.	75 Dyson Co., Winnipeg	2 14	None	None	"
" 25	"	33334 Hudson Bay Co., Ed- 3 " .. monton.	75 White Star Mfg. Co., Winnipeg	2 40	None	None	"
" 22	"	33335 Shera & Co., Fort 3 " .. Saskatchewan.	1 20 Dyson Co., Winnipeg	1 94	Present	None	"
" 14	Bulk Pickles	33336 Peoples Co-op. Soc. 1 qt .. Co., Calgary.	35 Heinz Co., Pitts- burgh.	None	None	None	"
" 14	"	33337 S. G. Treeye, Calgary 1 " ..	60 "	1 83	None	None	Pickles, Vegetables sound and firm.
" 14	"	33338 Copas & Emerson, 1 " .. Calgary.	50 "	1 27	None	None	"
" 14	"	33339 Calgary Milling Co., 1 " .. Calgary.	25 Dyson Co., Winnipeg	3 21	None	None	Mixed pickles, Vegetables sound and firm.
" 14	"	33340 Wood & Green, Cal 1 " .. gary.	90 H. J. Heinz Co., Pittsburgh, U.S.	1 83	Present	None	"

DISTRICT OF VANCOUVER—J. T. POWELL, INSPECTOR.

Aug. 4	Bottled Pickles.	34330 Empress Mfg. Co., 3 bots .. Vancouver.	45 Vendors	1 63	Present	None	Mixed pickles, Vegetables sound and firm.
" 4	Bulk Pickles	34331 " 1 qt ..	35 "	2 19	None	None	"
" 5	"	34332 A. & C. Grocery, 1 " .. Vancouver.	40 H. J. Heinz, Pitts- burgh, U.S.	2 44	None	None	"
" 5	"	34333 The Woodward Dept. 1 " .. Stores, Vancouver.	60 Lobb, McNeil & Lobb, Chicago, Ill., U.S.	2 04	None	None	"
" 6	"	34334 J. Donald & Co., 1 " .. Vancouver.	40 Brady Houston Co., Victoria, B.C.	1 38	Trace in ash.	None	"
" 10	"	34335 A. MacDonald Co., 1 " .. Vancouver.	75 The White Star Mfg. Co., Winnipeg, Man.	2 50	None	None	"
" 10	Bottled Pickles.	34336 Foran Bros., Van 3 bots .. couver.	75 Thos. Lipton, Len- don, Eng.	2 96	None.	Sulphurous acid 0.007 per 100 cc.	Chow Chow, Vegetables sound and firm.
" 10	"	34337 W. Clark, Vancouver 3 " ..	75 Rowat & Co., Glas- gow and Liverpool.	1 91	None.	None.	Mixed pickles, Vegetables sound and firm.
" 11	"	34338 Ideal Grocery, Van 3 " .. couver.	75 The Wm. Davies Co., Ltd., Toronto, Can.	1 99	Present in tissue and ash	None	"
" 11	"	34339 Hudson Bay Co., 3 " .. Vancouver.	1 20 Flaccas Bros., Wheel- ing W. V. A., U.S.	2 40	None	Salicylic acid	"



BULLETIN 163—PICKLES.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.
				Quantity.	(Cents.)		Acetic anhydride per 100 cc.	Alum.	Preservatives.	
DISTRICT OF VICTORIA—D. O. SULLIVAN, INSPECTOR.										
1900, July 25	Bottled Pickles.	34945	Windsor Grocery Co.	3 bts	1 05	Crosse & Blackwell, Mixed pickles, London, Eng.	2 68	None	None	Mixed pickles, Vegetables sound and firm.
" 25	"	34946	"	3 "	1 20	H. J. Heinz, Pitts- burgh, U.S.	2 80	None.	None.	" "
" 22	"	34948	W. K. Houston & Co.	3 "	60	Vendors	1 73	None.	None.	" "
" 22	Bulk Pickles	34949	"	1 qt	40	"	2 60	None.	None.	" "
" 22	Bottled Pickles.	34950	Saunders Grocery Co., Ltd.	3 bts	1 00	Holbrook & Co., London, Eng.	3 47	None.	None	" "
" 22	"	34951	"	3 "	60	W. L. Lovegrove & Co., London, Eng.	2 00	None.	None.	" "
" 25	Bulk Pickles	34954	Dixie H. Ross Co.	1 qt	50	Libby, McNeil & Libby, Chicago, Ill.	1 99	None.	None.	" "
" 23	"	34959	Fred Carne	1 "	35	H. J. Heinz, Pitts- burgh, U.S.	1 79	None	None.	" "
" 23	"	34968	W. B. Hall	1 "	40	"	1 73	None	None.	" "
" 24	"	34972	Dixie H. Ross Co	1 "	50	"	1 91	None.	None.	" "



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## APPENDIX N.

## BULLETIN No. 164—CANNED MEATS.

OTTAWA, October 10, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I have the honour to report upon 76 samples of Canned Meats, collected throughout Canada in August last. These samples may be classified as follows :

	Samples.
Boneless Chicken.....	4
“ Turkey .....	2
Brawn.....	1
Corned Beef .....	11
Deville Chicken.....	2
“ Ham .....	6
Jellied Veal .....	1
Loaf Beef .....	1
“ Chicken .....	3
“ Ham .....	4
“ Veal .....	6
Lunch Ham .....	2
“ Tongue.....	2
Melrose Paste. ....	1
Pork and Beans .....	1
Potted Beef .....	1
“ Chicken.,.....	2
“ Duck.....	1
“ Ham .....	2
“ Mixed Meats. ....	3
“ Pheasant.....	1
“ Sausage .....	1
“ Tongue.....	5
“ Turkey .....	5
“ Veal .....	2
Roast Beef .....	3
“ Mutton .....	2
Smoked Beef.....	1
Total. ....	76



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With a single exception (No. 34328, Potted Pheasant) these have been found in perfect condition of preservation. The exceptional sample, being ‘game,’ may be in such condition as consumers of the article prefer.

Boracic acid is the only preservative found in any of the above ; and it is present in 28 samples, or nearly 37 per cent of the collection. In no case is the amount present above one-half of one per cent of the weight of the sample.

Canned meats form the subject of Bulletin No. 85 (June, 1903), when 99 samples were reported ; and of Bulletin No. 123 (July, 1906), when 322 samples were reported upon.

In this Bulletin, the late chief analyst suggested the possibility of cereal products being used in the potted or devilled meat preparations ; and for the purpose of investigating this point, a further study of 90 samples of potted meats, selected from the same samples reported in Bulletin 123, together with 41 samples of sausages collected in July and August, 1906, was made, and reported in Bulletin No. 125 (September 1906).

All of the potted meats were found to give reactions for starch ; and the inference was perhaps too hurriedly drawn, that these contained added cereals. In certain of these samples, the microscope proved maize and potato starches present ; and this undoubtedly constitutes adulteration, when not acknowledged on the label. The mere finding of starch, in potted meat, is not, however, to be regarded as implying fraudulent addition of such. Many spices contain starch (pepper about 50 per cent) ; and these meat preparations are all highly spiced. The various cooking processes to which they are subjected result in such changes in the starch as to make it difficult, if not impossible, to identify the starches specifically.

The question, how much starch may legitimately be present in these articles is a difficult one to solve. In the present case, the starch has been quantitatively estimated in all samples, with the following results :—

	Samples.
No starch, or traces only.....	46
Below 1 per cent of starch.....	17
Between 1 and 2 per cent.....	5
Above 2 per cent.....	8

All of the samples containing above 2 per cent of starch are sold as ‘loaf’ meats ; with exception of the sausage.

The actual amounts of starch found in these samples (by hydrolysis and determination as dextrose) are as follows : —

No.	Name.	Manufacturer.	Starch.
31311.	Veal Loaf .....	Libby, McNeil & Libby.....	2·79
31214.	Ham Loaf .....	“ “ “ .....	4·90
31215	Chicken Loaf .....	G. H. Hammond & Co. ....	3·26
32620	Ham Loaf .....	Libby, McNeil & Libby. ....	5·36
22665	Veal Loaf .....	“ “ “ .....	6·57
33297	Sausage .....	W. Clark .....	4·06
35319	Beef Loaf. ....	Libby, McNeil & Libby .....	2·05
35316.....	Ham Loaf .....	“ “ “ .....	4·08

So far as taste is concerned, the devilled and potted meats appear to be more highly spiced than the so called ‘loaf’ preparations. None of these yield more than two (2) per cent of starch ; the majority of them contain much less than 2 per cent. Hence it seems fair to infer that starch, in other forms than as spices has been introduced into the so called ‘loaf’ meats. *Leach* (Food Inspection, &c., p. 185) says ‘One per cent, or more of starch present, may be due to the pepper and spices used in seasoning the sausage.’



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As already pointed out (Bull. 125, p. 6) it may be that the word 'loaf' is intended to convey an implication of the use of cereals in their preparation. If such is the case, a clear definition of the term 'meat loaf' is desirable. No objections, upon the ground of wholesomeness can be taken to the addition of small amounts of flour, and it may be that the consistency desired by the manufacturer requires the use of gelatinized starch to give necessary coherence to the product.

I beg to recommend the publication of this report as Bulletin No. 164.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.		Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		
			Quantity.	Cents.	Starch. P. C.	Preservatives Present.			Condition of sample.		
DISTRICT OF NOVA SCOTIA R. J. WAUGH, INSPECTOR.											
1908.											
Aug. 6	Potted Ham	33531	Wentzells, Limited, Halifax, N.S.	3 tins.	15	W. Clark, Montreal, Can.	Sold as Potted Ham		Trace.	Boric acid.	Good
"	7 Devilled Chicken	33532	Crey & Hodgson, Halifax, N.S.	3 "	24	Libby, McNeil & Libby, Chicago, Ill., U.S.	Sold as Devilled Chicken.		1 77	None.	"
"	7 Potted Turkey	33533	Jas. Hogan, Halifax, N.S.	3 "	30	W. Clark, Montreal, Can.	Sold as Potted Turkey		Trace.	Boric acid.	"
"	7 " Tongue	33534	Rooney & Lovitt, Halifax, N.S.	3 "	25	Libby, McNeil & Libby, Chicago, Ill., U.S.	Sold as Potted Tongue.		0 12	None.	"
"	7 " Turkey	33535	Wm. Moore, Halifax, N.S.	3 "	15	Laing Packing Co., Montreal, Can.	Sold as Potted Turkey.		0 13	Boric acid.	"
DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.											
July 28	Veal Loaf	31311	John McKenna, Charlottetown.	3 tins.	45	Libby, McNeil & Libby, Chicago.	The best veal loaf		2 79	None.	Good
"	28 Devilled Ham	31312	W. A. McLeod, Charlottetown.	3 "	45	W. Clark, Montreal	Devilled Ham		Trace.	Boric acid.	"
Aug. 3	"	31213	A. Powness, Kensington	3 "	45	Libby, McNeil & Libby, Chicago.	Devilled Ham. Highest awards.		"	None.	"
"	4 Ham: Loaf with Beef and Pork.	31214	Waugh & Steeves, Summerside.	3 "	54	"	Ham Loaf, with Beef and Pork.		4 90	"	"
"	5 Chicken Loaf	31215	Sanderson & Co., Charlottetown.	3 "	75	G. H. Hammond & Co., Chicago.	The contents of this package is of superior quality. Carefully selected and inspected according to law.		3 26	"	"



DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

July 17	Devilled Ham . . . . .	29743	Baird & Peters, St. John, 3 tins. N.B.	18	W. Clark, Montreal. . . . .	Labelled, Devilled Ham. Canada approved.	0.63	Boric acid.	Good.
" 24	Potted Tongue . . . . .	29744	The F. E. Williams Co., 3 . . . Ltd., St. John, N.B.	30	The G. H. Hammond Co., 3 . . . Hammond, Indiana, U.S.	Labelled, The G. H. Ham- mond Co.'s Coin Special Potted Tongue. Guar- anteed.	Trace.	None.	"
" 6	Devilled Chicken . . . . .	29745	George Stables, Newcastle, 3 . . N.B.	30	W. Clark, Montreal, Can. Labelled, Devilled Chick- en.		"	Boric acid.	"
" 7	Potted Turkey . . . . .	29746	J. B. Snowball Co., Ltd., 3 . . Chatham, N.B.	15	The Long Packing & Labelled, Potted Turkey, Prov. Co., Montreal, Can.		1.07	"	"
" 14	" . . . . .	29747	W. A. Estabrook, Frederic 3 . . ton, N.B.	45	Libby, McNeill & Libby, Labelled, Libby's Peer- less Brand Potted Tur- key. Contents of tin guaranteed.		1.25	None.	"

DISTRICT OF QUEBEC—E. BELAND, INSPECTOR.

July 17	Lunch Tongue . . . . .	26479	Philippe Gagnon, Rue St. 3 bds. Paul.	1.05	Whithead & Turner, Que- bec.		None.	None.	Good.
" 17	Corned Beef . . . . .	26480	" . . . . .	45	" . . . . .		"	"	"
" 17	Lunch Ham . . . . .	26483	Urban Bolduc, Rue St. 3 . . Paul.	60	J. B. Boland & Fiere, Quebec.		"	Boric acid.	"
" 17	Corned Beef . . . . .	26484	" . . . . .	90	" . . . . .		"	None.	"
" 17	Prime Roast Beef . . . . .	26485	F. Boivin, Rue St. Paul. 3 . .	75	N. Rivest & Co., Quebec . . . . .		"	"	"

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

July 29	Roast Mutton . . . . .	170	O. A. Jarry, St. Pie, Bagot 3 boxes.	60	Wm. Clark, Montreal		None.	Boric acid.	Good.
Aug. 3	Lunch Ham . . . . .	171	N. Lindsay, Drummond 3 . . ville.	75	Labelled, Canada Ap- proved.		None.	None.	"
" 4	Potted Veal . . . . .	172	C. H. Dingman, Eastman 3 . .	35	" . . . . .		Trace.	Boric acid.	"
" 6	Tongue, Ham and Veal . . . . .	173	M. G. Smith, Lac Megantic 3 . .	30	" . . . . .		0.24	Boric acid.	"
" 11	Roast Beef . . . . .	174	F. N. Chagnon, Sorl 3 . . Lapointe, Montreal.	60	The Long Packing & Prov. Co., Montreal.		None.	Boric acid.	"



BULLETIN No. 164—CANNED MEATS.

Date of Collection.	Nature of Sample.	No. of Sample.	Cost.		Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		
			Quantity.	(Cents.)				Starch.	Preservatives Present.	(Condition of Sample.

DISTRICT OF MONTREAL J. J. COSTIGAN, INSPECTOR.

1908.	July 14	Boned Chicken	32616	P. Daoust, 140 St. Catherine, Montreal.	3 tins.	90	Simeon Canning Co.				
"	"	14	32617	The Lang Packing Prox Co., Montreal.	and 3 "	45	Vendors.				
"	"	"	32618	W. Clark, Aubert St., Montreal.	3 "	40	Vendor	Sample taken from stock in warehouse.			
"	"	14	32619	" "	3 "	25	"				
"	"	17	32620	A. O. Galarneau, 624 Wellington St., Montreal.	Well 3 "	45	Libby, McNeil & Libby, Chicago.				

DISTRICT OF OTTAWA J. A. RICEY, INSPECTOR.

July 14	Boned Turkey	22663	C. Whitney & Son, Prescott, Ont.	3 tins	75	Van Camp Packing Co., Indianapolis, Ind.	Van Camp's Boned Turkey.				
"	21	Tongue, Ham and Veal	22664	McDonald Bros., 441 Stone Ave., Ottawa.	3 "	30	F. J. Castle Co., Ottawa, Ont.	Labelled Tongue, Ham and Veal. Mfg. by Wm. Clark, Montreal.			
"	22	Veal Loaf	22665	T. R. Davies, 287 St., Ottawa.	Rideau 3 "	60	Bate & Co., Ottawa, Ont.	Labelled Libby's Veal Loaf. 'The Best Veal Loaf.'			
"	23	"	22666	R. Richardson, Place.	Carleton 3 "	30	W. Clark, Montreal.	Labelled Clark's ready Veal Loaf.			
"	24	Wild Duck	22667	A. P. Johnson, Ave., Ottawa.	Bronson 3 "	15	"	Labelled Potted Wild Duck.			



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## DISTRICT OF KINGSTON—J. HOGAN, INSPECTOR.

July 22	Corned Beef	35295 W. Davies, Belleville	3 tins	45	Wm. Davies, Toronto	None.	None.	Good.
" 22	Chicken	35296 S. Fount, Port Hope	3 "	15	W. Clark, Montreal	Trace.	Boric acid.	"
" 22	Sausage	35297 " " " "	3 "	45	" " "	4.06	None.	"
" 23	Jellied Veal	35298 G. Matthews, Peterboro.	3 "	60	Vendor	None.	None.	"
" 23	Pork and Beans	35299 " " " "	3 "	30	"		None.	"

## DISTRICT OF TORONTO—H. J. DAGGER, INSPECTOR.

July 25	Potted Tongue	35134 The Wm. Davies Co., Ltd., Toronto	3 tins	15	Vendors	0.13	None	Good.
" 30	Ox Tongue	35135 The Park Blackwell Co., Ltd., Toronto	3 "	1.95	"	None	"	"
" 31	Cooked Corn Beef	35136 John Ross, St. Catharines	3 "	15	Wm. Clark, Montreal	"	"	"
Aug. 5	Chicken Leaf	35137 Jno. O. Carpenter, Hamilton	3 "	60	Armour & Co., Chicago	0.64	"	"
" 7	Boned Turkey	35138 E. H. Pandy, Port Perry	3 "	1.05	Aylmer-Canning Co., Ltd., Aylmer	None	"	"

## DISTRICT OF LONDON—T. KIDD, INSPECTOR.

July 15	Boned Chicken	30941 Charles A. Norn, God	3 tins	1.00	Aylmer-Canning Co., Aylmer	None	None	Good
" 20	Veal Leaf	30946 Richard Smyth, Seaforth	3 "	45	W. Clark, Montreal	0.88	Boric acid.	"
" 20	Smoked Beef (sheep)	30947 Calum Bros., Seaforth	3 "	45	A. M. Smith & Co., London, Ont.	None	None	"
" 20	Potted Beef	30948 Charles Andrews, Seaforth	3 "	30	W. Davies & Co., Toronto	0.68	"	"
" 21	Cooked Corned Beef	30957 The Barnsdale Trading Co., Stratford, Ont.	3 "	45	W. Clark, Montreal	None	"	"
" 22	Ham, Tongue and Veal	30959 W. C. Davis, Hensall	3 "	30	W. H. Gillard & Co., Hamilton, Ont.	0.63	Boric acid.	"



BULLETIN 164—CANNED MEATS.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Inspector's Report.	RESULTS OF ANALYSIS.		
				Quantity.	Cents.		Starch.	Preservatives Present.	Condition of Sample.

DISTRICT OF WINDSOR—JOHN TALBOT, INSPECTOR.

1908.									
July 20	Canned Meat.....	34582	Wm. Davies Co., London	3 tins...	90	Wm. Davies & Co., Toronto.	None	None.	Good.
" 20	Canned Beef.....	34583	Can. Packing Co., London.	3 " "	45	Vendors.....	"	Boric acid	"
Aug. 13	" .....	34599	O'Dwyer & Jay, Strathroy.	3 " "	45	Clark Packing Co., Montreal.	"	None.	"
" 14	Brawn .....	34600	Fenwick & Son, St. Mary's.	3 " "	45	Can. Packing Co., London.	"	Boric acid.	"
" 14	Ham Loaf.....	34603	J. M. Adam, St. Mary's.	3 " "	45	Win. Clark, Montreal... Labelled, 'Ham Loaf'...	0 73	None.	"

DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

Aug. 10	Veal Loaf.....	33197	J. G. McLean & Co., Pilot Mound.	3 cans...	1 30	W. Clark, Montreal.....	1 30	Boric acid.	Good.
" 10	Boneless Chicken .....	33198	" .....	3 " "	1 05	The Manitoba Canning Co., Grand Point, Manitoba.	None.	None.	"
" 11	Potted Ham.....	33199	R. A. Garrett & Co., Manitou.	3 " "	30	W. Clark, Montreal.....	Trace.	Boric acid.	"
" 11	Potted Turkey.....	33200	" .....	3 " "	30	" .....	"	"	"
" 12	Veal Loaf .....	35701	Thos. Hartley, Winnipeg.	3 " "	45	Libby, McNeil & Libby, Chicago, U.S.A.	0 77	None.	"



DISTRICT OF CALGARY--R. W. FLETCHER, INSPECTOR.

14	Aug. 17	Canned Meats	35316	Spencer & Todd, Medicine Hat.	3 tins	50	Lobby, McNeil & Lobby, Chicago.	Ham Leaf.	4 08	None.	Good.
14	" 19	"	35317	Hudson Bay Co., Leth. bridge.	3 "	60	" "	Chicken Leaf	0 73	None.	"
21	" 22	"	35318	Wilkin & Jones, Fort Saskatchewan.	3 "	25	W. Clark, Montreal	Devilled Ham.	Trace.	Boricacid.	"
	" 25	"	35319	Hudson Bay Co., Edmonton.	3 "	50	Lobby, McNeil & Lobby, Chicago.	Beef Leaf.	2 05	None.	"
	" 25	"	35320	" "	3 "	30	Mantoba, Canning Co., Grand Point.	Potted Chicken	0 36	None.	"

DISTRICT OF VANCOUVER--J. F. POWER, INSPECTOR.

July 31	Devilled Ham	34325	A. J. McFarlane, Fairview, Vancouver.	3 "	45	W. Clark, Montreal.		0 40	Boricacid.	Good.
" 31	"	34326	S. Bell, Vancouver	3 "	40	W. Davies, Toronto.		0 73	None.	"
" 31	Meatose Paste	34327	W. H. Welsh, Vancouver	3 "	45	Lobby, McNeil & Lobby, Chicago.		0 98	None.	"
Aug. 1	Potted Pheasant	34328	J. McTaggart, Vancouver	2 jars.	60	Pack, Snow Hill, London, Eng.	Archer brand.	Trace.	Boricacid	Decomposed.
" 1	Potted Tongue	34329	S. Wright, Vancouver.	3 tins	60	Armour Packing Co., Kansas City, U. S.	Helmet brand.	Trace.	None.	Good.

DISTRICT OF VICTORIA--D. O. SULLIVAN, INSPECTOR.

July 21	Roast Beef	34940	Windsor Grocery Co.	3 tins	75	Clark, Montreal, P. Q.	Clark's Cooked Roast Beef.	None.	Boricacid.	Good.
" 21	Corned Beef	34941	" "	3 "	40	The Lang Packing & Prov. Co., Montreal, P. Q.	Lang's Compressed Cooked Corn Beef.	None.	Boricacid.	"
" 21	Roast Mutton	34942	" "	3 "	70	The Union Canning Works, Sydney, N. S.	Union Brand Roast Mutton.	None.	None.	"
" 21	Lunch Tongue	34943	" "	3 "	105	The Lang Packing & Prov. Co., Montreal, P. Q.	Lang's Lunch Tongue.	None.	None.	"
" 21	Boneless Chicken	34944	" "	3 "	105	The Delta Canning Co., Montreal, P. Q.	Boneless Chicken	None.	None.	"



APPENDIX O.

BULLETIN No. 165—GROUND PEPPER.

OTTAWA, October 17, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR, —I beg to hand you herewith a report upon the examination of 298 samples of ground pepper, being 146 samples sold as white pepper and 152 samples sold as black pepper. This collection was made throughout Canada in May and June of the present year.

The results of analysis may be summarized as follows :—

WHITE PEPPER.

(See Table I.)

Genuine, 106 ; doubtful, 8 ; adulterated, 32—total, 146.

BLACK PEPPER.

(See Table II.)

Genuine, 110 ; doubtful, 5 ; adulterated, 37—total, 152.

It thus appears that 21·9 per cent of the white pepper samples and 24·34 per cent of the black peppers are adulterated.

The last report upon ground pepper is contained in Bulletin No. 106, of August, 1905. This Bulletin contains a synopsis of the inspection work done upon pepper since the Adulteration Act came into force. The subjoined table, showing the total results of inspection for the different inspectoral districts, is taken from Bulletin 106, page 6.

FROM PERIOD 1877 TO 1905.

District.	Samples Examined.	Adulterated.	Percentage of Adulteration.
Nova Scotia .....	140	40	28
New Brunswick.....	118	70	60
Prince Edward Island.....	34	8	24
Quebec .....	186	94	51
St. Hyacinthe.....	34	28	82
Montreal .....	279	203	72
Kingston.....	90	47	55
Toronto .....	212	89	42
London.....	90	33	36
Manitoba.....	82	26	31
Calgary.....	31	15	50
British Columbia.....	52	20	33
	1,348	673	50



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It will be noted that the present collection indicates a great improvement as compared with previous collections of pepper. While the work of 28 years past shows an average for that period of 50 per cent adulteration, the present collection contains only about half that percentage. This marked improvement is very gratifying, but it must be acknowledged that, in spite of it, ground pepper still remains one of the most badly adulterated articles of food in Canada. The recent enforcement in the United States of a strict inspection in food stuffs, and the refusal in several of the States to admit materials imported for the express purpose of adulterating spices, has resulted in attempts on the part of shippers to secure dumping ground for these adulterants.

It cannot be said that any of the substances identified as foreign matter in ground pepper are, in the strict sense, unwholesome; but pepper dust and refuse (ground husks, &c.) are likely to contain many forms of dirt, and are, at least, very undesirable admixtures, while sand, flour, cayenne, coconut shells, &c., are, at the best, distinct frauds against the pocket, if not a menace to the stomach of the consumer.

For purposes of comparison by inspectoral districts the following table is of interest.

INSPECTION OF MAY AND JUNE, 1908.

District.	Total Samples Examined	Genuine.	Doubtful.	Adulterated.	Percentage of Adulteration.
Nova Scotia	20	19	0	1	5
Prince Edward Island	20	15	1	4	20
New Brunswick	20	14	1	5	25
Quebec	23	12	2	9	39
St. Hyacinthe	20	8	0	12	60
Montreal	20	8	2	10	50
Ottawa	20	15	1	4	20
Kingston	20	16	0	4	20
Toronto	20	17	1	2	10
London	18	13	2	3	17
Windsor	17	15	1	1	6
Manitoba	20	11	1	8	40
Calgary	20	17	0	3	15
Vancouver	20	18	1	1	5
Victoria	20	18	0	2	10
	298	216	13	69	23

As pointed out in Bull. 106, it appears that the chief centres of adulteration of pepper are in and about Montreal, although Winnipeg is becoming too prominent in this regard.

I beg to recommend the publication of this report as Bulletin No. 165.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
Chief Analyst.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF NOVA SCOTIA—						
1908.						
May 12	White Pepper..	33645	John P. Mott & Co., Halifax, N.S.	6 oz....		Vendors .....
" 12	"	33646	Wentzell's Limited, Halifax, N.S.	6 " ..	15	John P. Mott & Co., Halifax, N.S.
" 13	"	33647	Wm. Moore, Halifax, N.S.	8 " .	18	" " ....
" 13	"	33648	Jas. Scott & Co., Halifax, N.S.	8 " ..	20	W. H. Schwartz & Sons, Halifax, N.S.
" 13	"	33649	Craig & Hodgson, Halifax, N.S.	8 " ..	20	Can. Drug Co., St. John, N.B.
" 13	"	33652	E. B. Tracey, Halifax, N.S.	3 pkgs..	45	Todhunter, Mitchell & Co., Toronto, Ont.
" 13	"	33653	Dillon Bros., Halifax, N.S.	8 oz....	20	" " ....
" 13	"	33654	Nat. Drug & Chemical Co., Halifax, N.S.	12 " ..	21	Vendors ...
" 14	"	33655	J. A. Leaman & Co., Halifax, N.S.	½ lb....	15	W. H. Schwartz & Sons, Halifax, N.S.
" 14	"	33656	G. A. Cook & Co., Halifax, N.S.	½ " ..	20	Ewing & Sons, Montreal, P. Q.
DISTRICT OF PRINCE EDWARD ISLAND--						
May 14	White Pepper..	31261	Geo. Ruckham, Charlottetown.	½ lb....	20	Carvell Bros., Charlottetown.
" 15	"	31262	W. W. Walker, Charlottetown.	½ " ..	20	E. H. Schwartz & Co., Halifax, N.S.
" 15	"	31263	T. T. Mahar, Charlottetown.	½ " ..	20	Carvell Bros., Charlottetown.
" 19	"	31264	Mathew & McLean, Souris.	½ " ..	24	Pure Gold Mfg. Co., Ltd....
" 19	"	31265	Pool & Thompson, Montague Bridge.	3 pkgs..	36	" " ....
" 21	"	31266	W. W. Jenkins, Georgetown.	½ lb ...	20	W. H. Schwartz & Co., Halifax, N.S.
" 26	"	31267	R. T. Holman, Summerside.	½ " ..	20	Dearborn & Co., St. John...
" 26	"	31268	C. Kane, Summerside.....	½ " ..	18	Herron & Co., Montreal...
" 28	"	31269	R. F. Madigan, Charlottetown.	½ " ..	20	L. Chaput fils & Co., Montreal.
" 28	"	31270	T. H. Myrick, Charlottetown.	½ " ..	20	John Tobin & Co., Halifax..
DISTRICT OF NEW BRUNSWICK—						
May 13	White Pepper..	29692	G. E. Barbour & Co., Ltd., 11-12 North Wharf, St. John, N.B.	3 car..	24	G. E. Barbour & Co., Ltd., 11-12 North Wharf, St. John, N.B.
" 15	"	29693	Vanwart Bros., 203-205 Charlotte St., St. John, N.B.	1 lb...	50	G. E. Barbour Co., Ltd., St. John, N.B.



SESSIONAL PAPER No. 14

TABLE I.—WHITE PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.					Remarks and Opinion of the Chief Analyst
	Water soluble.	Ash, per cent.			Microscopical Examination	
		Total.	Soluble in acid, Hydrochloric.	Insoluble in acid, Hydrochloric. Sand		
R. J. WAUGH, INSPECTOR.						
Labelled pure . . . . .	p.c.	p.c.	p.c.	p.c.	Pepper tissues only	Genuine.
Guaranteed pure . . . . .		0.78				
Sold as pure . . . . .		1.04				
" . . . . .		0.76				
" . . . . .		1.54				
Sold as best White Pepper . . . . .		0.90				
Labelled 1st quality guaranteed Castor brand, in original packages.		1.44				
Guaranteed pure labelled on box.		0.70				
Sovereign brand. Guaranteed pure		1.04				
Bought by vendors from manufacturers as pure.		0.98				
Sold as pure . . . . .		1.10	1.00	0.10		
T. MOORE, INSPECTOR.						
. . . . .		1.86	1.58	0.28	Contains wheat flour . . . . .	Adulterated.
. . . . .		1.20	1.04	0.16	Pepper tissues only. . . . .	Genuine.
. . . . .		1.84	1.68	0.16	Contains wheat flour . . . . .	Adulterated.
. . . . .		1.06	1.00	0.06	Pepper tissues only . . . . .	Genuine.
Warranted no cheap goods nor filler of any kind. Absolutely pure. Guaranteed to please.		1.10	1.04	0.06	" " . . . . .	
. . . . .		1.90	1.80	0.10		
. . . . .		1.92	1.30	0.62	" " . . . . .	
. . . . .		1.96	1.62	0.34	Contains maize starch . . . . .	Adulterated.
. . . . .		1.14	1.04	0.10	Pepper tissues only . . . . .	Genuine.
. . . . .		3.48	2.80	0.68	Contains wheat flour in very small amount.	Doubtful.
J. C. FERGUSON, INSPECTOR.						
'Acorn Brand.' Labelled, Strictly pure White Pepper. Guarantee. Quality counts.		1.15			Pepper tissues only . . . . .	Genuine.
Bulk from spice drawer in store.		1.04			" . . . . .	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF NEW BRUNSWICK—

1908.						
May 16	White Pepper ..	29694	Dearborn & Co., 93-95 Prince William St., St. John, N.B.	1 lb. ....	40	Darborn & Co., 93-95 Prince William St., St. John, N.B.
" 20	" ..	29695	The Sussex Mercantile Co., Ltd., Main St., Sussex, King's Co., N.B.	½ " ...	20	Horace W. Coll, St. John, N.B.
" 21	" ..	29696	F. P. Reid & Co., Mechanic St., Moncton, N.B.	3 car. ...	24	Not known.....
" 23	" ..	29697	M. Bannon, Water St., Newcastle, N.B.	3 bots ..	30	Todhunter, Mitchell, & Co., Toronto, Ont.
" 26	" ..	29698	A. Normand, Des Brisay, King St., Bathurst, N.B.	½ lb. ....	15	Hudon, Hebert & Co., Montreal, P.Q.
" 27	" ..	29699	Geo. G. McKenzie & Co., Main St., Campbelltown, N.B.	3 car. ...	30	Bowman & Cole, St. John, N.B.
June 6	" ..	29700	Hatt, Morrison & Co., Queen St., Fredericton, N.S.	3 " ...	30	John P. Mott & Co., Halifax, N.S.
" 6	" ..	29701	G. T. Whelpley, Queen St., Fredericton, N.S.	3 " ....	30	Todhunter, Mitchell & Co., Toronto, Ont.

DISTRICT OF QUEBEC—

May 11	White Pepper...	26408	G. Fords & Co., Portneuf...	½ lb. ...	20	Mathews & Son, Montreal ..
" 12	" ..	26418	T. R. Labranche, Portneuf...	½ " ....	20	Quebec Preserving, Quebec..
" 12	" ..	26423	Marie Richard, Portneuf....	½ " ....	17	Whitead & Turner, Quebec..
" 13	" ..	26426	Elzéar Gérard, Cap Santé...	½ " ...	20	N. Turcotte & Co., Quebec..
" 13	" ..	26429	F. X. Paquet, Cap Santé....	½ " ....	20	Leclerc & Letelier, Quebec..
" 13	" ..	26433	A. Bernard, Cap Santé. ....	¾ " ...	20	A. A. T. Gingras, Quebec...
" 14	" ..	26443	Edmond Germain, St. Basile	½ " ....	15	T. Davidson & Co., Quebec..
" 15	" ..	26452	D. Belanger, St. Basile. ....	½ " ....	20	Langlois & Paradis, Quebec.
" 15	" ..	26454	Samuel Jacques, St. Basile.	½ " ....	11	N. Turcotte & Co., Quebec..
" 15	" ..	26457	J. T. Marcotte, St. Basile...	½ " ...	10	Whitead & Turner, Quebec..



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TABLE I.—WHITE PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.					Remarks and Opinion of the Chief Analyst.
	Water soluble.	Ash, per cent.			Microscopical Examination.	
		Total.	Soluble in acid (Hydrochloric).	Insoluble in acid (Hydrochloric) Sand		
J. C. FERGUSON, INSPECTOR <i>Continued.</i>						
Bulk from receiving bin in mill.		p.c. 2.50			Pepper tissues only	Genuine.
Imported by furnisher from England.		1.78				
Pyramid Brand. Absolutely pure spices. Pyramid White Pepper ground from the finest imported and selected spices.	0.64	5.20	2.86	1.70		Genuine, but outer husk imperfectly removed, and approaches black pepper in character.
'Castor Brand.' Pure spices guaranteed 1st quality, mfd. by Todhunter, Mitchell & Co.		0.38				Genuine.
Labelled Pure Ground White Pepper. Hudon, Hébert & Cie.		2.14			Maize starch and foreign tissues.	Adulterated.
Thistle Brand White Pepper. Bowman & Cole spices are guaranteed pure.		1.46	1.36	0.10	Contains wheat flour.	"
White Pepper guaranteed absolutely pure. Mott's strictly pure pepper.		1.70	1.40	0.30	Pepper tissues only	Genuine.
Whelpley's Pure White Pepper. Quality guaranteed.		0.90	0.84	0.06		
E. BELAND, INSPECTOR.						
.....		2.24			Pepper tissues only.....	Genuine.
.....		2.56			A few foreign starch granules.	Doubtful.
.....		1.14			Pepper tissues only. ....	Genuine.
.....		1.18			Contains maize starch (and a little cayenne).	Adulterated.
.....		0.84			Pepper tissues only.....	Genuine.
.....		1.60				"
.....		23.76	6.80	16.96	This is labelled 'white,' but is a black pepper. Contains wheat flour, cocoa nut shells and dirt.	Adulterated.
.....		2.38			Contains buckwheat flour.	"
.....		6.16	3.44	2.72	Contains excess of stone cells; is brown in colour; probably meant for black pepper.	Doubtful.
.....		1.10			Contains wheat flour.	Adulterated.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF ST. HYACINTHE—

1908.						
May 11	White Pepper..	118	J. O. Fagnan, Sorel.....	1 lb....	40	J. J. Duffy & Co., Montreal.
" 12	" ..	119	Nap. Quintin, Iberville.....	1 " ....	30	Mayell's, Toronto.....
" 13	" ..	120	J. P. Bertrand, Iberville....	1 " ....	35	Hudon & Orsali, Montreal...
" 13	" ..	121	Chas. Boucher & fils, St. Jean.	1 " ....	40	Brassard & Simard, St. Jean.
" 14	" ..	122	Isabelle & Rivet, Granby ...	1 " ....	35	Laporte, Martin & Cie, Montreal.
" 14	" ..	123	P. Larochelle, Farnham.....	1 " ...	40	Hudon & Orsali.....
" 18	" ..	124	A. J. Hudon, Richmond....	1 " ....	40	F. F. Dally Co., Ltd., Toronto.
" 19	" ..	125	Nazaire Lapointe, Sherbrooke.	1 " ..	40	Chas. Lefebvre, Sherbrooke.
" 20	" ..	126	Denault Grain & Provision Co., Sherbrooke.	1 " ....	14	Lyon Silverman, Montreal..
" 22	" ..	127	Adolphe Ménard, St. Hyacinthe.	1 " ....	40	R. O. Brodeur, St. Hyacinthe.

DISTRICT OF MONTREAL—

May 11	White Pepper..	32927	Nat. Coffee and Spice Mills, 202 St. Paul St., Montreal.	1 lb....	30	Vendors.....
" 11	" ..	32928	J. A. Simard & Cie, 305 St. Paul St., Montreal.	½ " ....	10	" ..
" 11	" ..	32929	J. J. Duffy & Co., 375 St. Paul St., Montreal.	½ " ....	15	" ..
" 11	" ..	32930	S. H. Ewing & Sons, 98 King St., Montreal.	½ " ....	15	" ..
" 11	" ..	32931	Heron Leblanc, Ltd., 573 St. Paul St., Montreal.	½ " ....	15	" ..
" 11	" ..	32932	J. Labranche, 535 Notre Dame East, Montreal.	½ " ....	12	" ..
" 12	" ..	32933	J. V. Boudrias, 222 Notre Dame East, Montreal.	½ " ....	13	" ..
" 12	" ..	32934	Théodore Lefebvre & Co., Gosford St., Montreal.	½ " ....	10	" ..
" 18	" ..	32936	Geo. Stroud, 529 St. Catherine East, Montreal.	½ " ....	20	S. H. Ewing & Sons, Montreal.
" 15	" ..	32937	W. C. Forget, St. Agathe de Monts, P.Q.	½ " ....	20	Hudon, Hébert & Co., Ltd..



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TABLE I—WHITE PEPPER.

Inspector's Report	RESULTS OF ANALYSIS.				Remarks and Opinions of the Chief Analyst.
	Water soluble.	Ash, per cent.		Microscopical Examination.	
		Total.	Soluble in acid (Hydro- chloric). Insoluble in acid (Hydro- chloric) and		

J. C. ROULEAU, INSPECTOR.

	p.c.	p.c.	p.c.	p.c.	
.....		1.14	.....	.....	Pepper tissues only..... Genuine.
.....		1.88	1.40	0.48	
From box marked White Pepper.....		3.40	1.28	2.12	Contains wheat flour..... Adulterated.
per.		1.16	0.96	0.20	Pepper tissues only. Genuine.
		2.66	1.14	1.52	Contains wheat flour..... Adulterated.
Box marked Pure White Pepper. Opened in my presence.		1.30			Pepper tissues only. Genuine.
Marked Daily's Pure White Pepper.		2.36			Contains wheat flour. Adulterated.
Marked White Pepper.....		3.16	.....	.....	" " .....
Box marked Pure White Pepper.....		1.76	.....	.....	Contains maize starch and foreign tissues.
per, 10 lbs. No. 4571 Z		3.46	1.20	2.10	Contains wheat flour.....
..... 0.16					

J. J. COSTIGAN, INSPECTOR.

(A. Laframbese, proprietor)	3.50	1.44	2.66	Maize flour.....	Adulterated.
	1.14			Pepper tissues only.....	Genuine.
	0.98			Trace of wheat flour.....	Doubtful.
	1.14			Pepper tissues only.....	Genuine.
	1.60			Wheat flour.....	Adulterated.
Vendor is successor of E. Perchard, Coffee and Spice Mfr. Sample taken from stock bought from E. P.	2.58				
	1.10			Pepper tissues only.....	Genuine.
	0.88			Trace of wheat flour.....	Doubtful.
	1.40			Pepper tissues only.....	Genuine.
	1.82	...	.....	Wheat flour.....	Adulterated.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF OTTAWA—

1908.						
May 14	White Pepper..	34169	R. E. Powell, cor. Elgin and Gilmour Sts., Ottawa, Ont.	½ lb...	20	Not known ... ..
" 14	" ..	34171	W. R. Cummings, Cummings Bridge, Ont.	½ " ....	20	S. J. Major, Ltd., Ottawa, Ont.
" 14	" ..	34172	L. Malette, cor. Dalhousie and Murray Sts., Ottawa..	½ " ...	20	C. H. Cochrane & Co., Ottawa, Ont.
" 15	" ..	34173	F. W. Forde, 189 Rideau St., Ottawa, Ont.	½ " ....	20	" " ..
" 15	" ..	34174	M. T. Pinkerton & Co., cor. Rideau and Dalhousie Sts., Ottawa, Ont.	½ " ....	20	" " ..
" 16	" ..	34175	T. Lindsay, Ltd., Sussex St., Ottawa, Ont.	½ " ...	18	Not known.....
" 23	" ..	34176	J. G. Higginson, Hawkesbury, Ont.	½ " ....	20	Pure Gold Mfg. Co., Toronto, Ont.
" 23	" ..	34177	Banford & Dunning, Hawkesbury, Ont.	½ " ....	20	F. F. Dally & Co., Hamilton, Ont.
" 26	" ..	34178	W. G. Becksted, Morrisburg, Ont.	½ " ....	20	Not known.....
" 28	" ..	34179	T. Brown & Co., Brockville.	½ " ....	20	" ..

DISTRICT OF KINGSTON—

May 12	White Pepper..	35227	J. Harker, Front St., Belleville.	½ lb....	20	R. Greig Co., Toronto.....
" 14	" ..	35228	John Curtis, Port Hope.....	½ " ....	25	Pure Gold, Toronto.....
" 12	" ..	35229	R. Elvies, Front St., Belleville.	½ " ....	20	Kelley & Wamsley, Belleville.
" 12	" ..	35230	H. E. Fairfield, Front St., Belleville.	½ " ....	20	Jno. Sloan, Belleville.....
" 12	" ..	35231	A. J. McCrodan, Front St., Belleville.	½ " ....	20	Todhunter & Mitchell, Toronto.
" 14	" ..	35232	J. Dunfee, Port Hope .....	½ " ....	20	Pure Gold Co., Toronto.....
" 14	" ..	35233	S. Faurt, Port Hope.....	½ " ....	20	The Red Feather Co. (W. H. Gillard) Hamilton.
" 15	" ..	35234	W. J. Roulty, Charlotte St., Peterboro.	½ " ....	20	Dalton, Toronto.....
" 15	" ..	35235	J. Sutherland, George St., Peterboro.	½ " ...	25	T. Kinner, Hamilton.....
" 15	" ..	35236	Mason Co., George St., Peterboro.	½ " ....	25	Todhunter & Mitchell, Toronto.



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Inspector's Report.	RESULTS OF ANALYSIS.					Remarks and opinion of the Chief Analyst.
	Water soluble.	Ash, per cent.			Microscopical Examination.	
		Total.	Soluble in acid (Hydro- chloric.)	Insoluble in acid (Hydro- chloric) Sand		

## J. A. RICKEY, INSPECTOR.

	p.c.	p.c.	p.c.	p.c.		
Sold as white pepper . . . . .		1.12	...		Pepper tissues only.	Genuine.
Said to be imported French pepper. Sold as white pep- per.		2.28			A little wheat flour.	Doubtful.
Sold as pure white pepper. After buying chief clerk said it was bought and sold as compound.		2.38			Wheat and other foreign starch.	Adulterated.
Sold as white pepper . . . . .		2.94			Pepper tissues only.	Genuine.
" . . . . .		0.98				
" . . . . .		1.16				
" . . . . .		0.96				
" . . . . .		1.20				
" . . . . .		1.32				
" . . . . .		1.39	1.16	0.14	Contains wheat flour	Adulterated.

## J. HOGAN, INSPECTOR.

.....		0.98			Contains wheat flour.	Adulterated.
.....		0.84			Pepper tissues only.....	Genuine.
.....		1.28				
.....		2.06				
.....		1.00				
.....		0.92				
.....		0.94				
.....		0.94			Contains wheat flour in large amount.	Adulterated.
.....		2.40			Contains wheat flour	"
.....		0.96			Pepper tissues only	Genuine.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity,	Cents.	

DISTRICT OF TORONTO—

1908.						
May 11	White Pepper..	35079	T. Postan, Ancaster.....	$\frac{1}{2}$ lb....	20	W. H. Gillard & Co., Hamilton.
" 12	" ..	35080	W. Leith, Caledonia.....	$\frac{1}{2}$ " ....	18	Balfour, Smye & Co., Ltd., Hamilton.
" 12	" ..	35081	J. W. Courtnage, Hagersville.	$\frac{1}{2}$ " ....	20	Hamilton Coffee & Spice Co., Ltd., Hamilton.
" 15	" ..	35082	J. S. O'Neil, Welland .....	$\frac{1}{2}$ " ....	20	Balfour, Smye & Co., Hamilton.
" 15	" ..	35083	R. Greenwood, Port Colborne	$\frac{1}{2}$ " ....	20	Not known.....
" 21	" ..	35084	J. H. Wells, Grimsby. ..	$\frac{1}{2}$ " ....	20	F. F. Daly Co., Ltd., Hamilton.
" 21	" ..	35085	Millen Bros., Stoney Creek..	$\frac{1}{2}$ " ....	18	Balfour, Smye & Co., Ltd., Hamilton.
" 23	" ..	35086	Thos. Harker, Oakville.. ..	$\frac{1}{2}$ " ....	20	McLaren, Ltd., Hamilton...
" 27	" ..	35087	F. C. Brown, East Toronto..	$\frac{1}{2}$ " ...	18	Todhunter, Mitchell & Co., Toronto.
" 27	" ..	35088	W. H. Blaylock, East Toronto.	$\frac{1}{2}$ " ....	20	Pure Gold Mfg. Co., Ltd., Toronto.

DISTRICT OF LONDON—

May 12	White Pepper..	30499	Charles Nairn, Goderich....	$\frac{3}{4}$ lb....	30	Not known.....
" 14	" ..	30902	Pickard & Fleming, St. Mary's	1 " ....	40	Canada Spice Co., London, Ont.
" 16	" ..	30907	Beattie Bros., Seaforth. ....	1 " ...	40	Gorman & Eckert, London, Ont.
" 20	" ..	30916	M. H. Killoran, Stratford..	$\frac{3}{4}$ " ....	28	Coffee & Spice Co., London, Ont.
" 20	" ..	30922	McCulla & Haugh, Stratford.	$\frac{3}{4}$ " ....	30	Not known .....
" 27	" ..	30927	James Cutt, Blyth.....	$\frac{3}{4}$ " ....	25	Canada Coffee & Spice Co., London, Ont.
" 27	" ..	30931	H. A. Malcolm, Wingham..	$\frac{3}{4}$ " ....	30	C. W. Griffin.....
June 30	" ..	30935	Michael Durkin, Mitchell, Ont.	$\frac{3}{4}$ " ....	30	Canada Spice & Grocery Co., London, Ont.

DISTRICT OF WINDSOR—

May 15	White Pepper..	34541	F. J. Wood, Petrolia.. ..	$\frac{1}{2}$ lb....	20	Gorman, Eckert & Co., London.
" 19	" ..	34551	E. O. Flaherty, Stratford..	$\frac{1}{2}$ " ....	20	McLaren Co., Hamilton....



SESSIONAL PAPER No. 14

TABLE I—WHITE PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.				Microscopical Examination.	Remarks and Opinion of the Chief Analyst.
	Water soluble.	Ash, per cent.				
		Total.	Soluble in acid (Hydrochloric)	Insoluble in acid (Hydrochloric Sand)		

H. J. DAGER, INSPECTOR.

	p.c.	p.c.	p.c.	p.c.		
Sample taken from tin on shelf of shop.	.	2.00			Pepper tissues only	Genuine.
Sample taken from tin chest on shelf.		1.90				"
Sample taken from stock tin on shelf.		1.88				"
Sample taken from drawer on ledge of shop.		1.48				"
Sample taken from stock tin. Vendor said he had it a long time.		1.46				"
Sample taken from stock tin on shelf.		1.84	1.52	0.32		"
Sample from stock tin on shelf. Vendor says packages are marked pure when received.		1.46	1.38	0.08	Contains wheat flour	Adulterated.
Sample from stock tin on shelf. Vendor bought it for pure.		1.28			Pepper tissues only	Genuine.
Sample from tin branded Todhunter's White Pepper.		0.98	0.88	0.10		"
Jardine Brand strictly pure spices white peppers. Pure Gold Mfg. Co., Ltd.		0.96	0.78	0.18		"

T. KIDD, INSPECTOR.

	2.50		Pepper tissues only	Genuine.
.....	1.20		"	"
.....	2.26		"	"
.....	1.16		"	"
.....	0.94		"	"
.....	1.58		Contains a trace of wheat flour.	Doubtful.
Vendor bought this in the stock he bought from C. W. Griffin.	1.14		Pepper tissues only	Genuine.
.....	1.14		"	"

J. TALBOT, INSPECTOR.

Not labelled	0.92	.....	Pepper tissues only	Genuine.
After purchase was made Mr. Flaherty said that this was not pure but acknowledged if a customer asked for White Pepper he gave it to them as such.	1.56	..		



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF WINDSOR—						
1908.						
June 9	White Pepper..	34558	G. N. Willets, Brantford. . .	$\frac{1}{2}$ lb . . .	15	Hamilton Coffee & Spice Co.
" 9	" ..	34559	Bon Marche, Brantford. . . . .	$\frac{1}{2}$ " ..	20	F. F. Dally Co., Hamilton..
" 10	" ..	34564	Fred. Millman, Woodstock..	$\frac{1}{2}$ " ..	25	Todhunter & Mitchell, To- ronto.
" 10	" ..	34567	A. M. Smith & Co., Wood- stock.	$\frac{1}{2}$ " ..	20	Gorman & Eckert, London, Ont.
" 10	" ..	34571	H. W. Healy, Ingersoll. . . . .	$\frac{1}{2}$ " ..	20	T. B. Escott & Co., London, Ont.
" 25	" ..	34574	F. J. Wagner, Aylmer. . . . .	$\frac{1}{2}$ " ..	15	McLaren Co., Hamilton. . . .
DISTRICT OF MANITOBA—						
May 19	White Pepper..	33128	Wright & Co., Minnedosa. . .	$\frac{3}{4}$ lb. . . .	30	Codville & Co., Winnipeg. . .
" 19	" ..	33129	P. J. McDermott, Minnedosa	$\frac{1}{2}$ " ..	20	Campbell Bros., Wilson, Winnipeg.
" 21	" ..	33130	W. T. Francis, Norwood Grove, P.O., St. Boniface.	$\frac{1}{2}$ " ..	20	The Dyson Co., Winnipeg..
" 21	" ..	33131	H. Sylvester, Norwood Grove, P.O., St. Boniface.	$\frac{1}{2}$ " ..	20	The Jobin Marrin Co., Winni- peg.
" 22	" ..	33132	R. W. O. Rolph, Logan Ave., Winnipeg.	$\frac{1}{2}$ " ..	20	The White Star Co., Winni- peg.
" 22	" ..	33133	The Sweedish Importing Gro- cery Co., Ltd., Winnipeg..	$\frac{1}{2}$ " ..	20	Not given. . . . .
" 27	" ..	33134	C. Finkleman, West Selkirk.	$\frac{1}{2}$ " ..	15	" . . . . .
" 27	" ..	33135	Chas. Horwitz, West Selkirk.	$\frac{1}{2}$ " ..	20	The Codville Co., Ltd., Winnipeg.
" 27	" ..	33136	R. Bullock . . . . .	$\frac{1}{2}$ " ..	20	" " . . . . .
" 28	" ..	33137	I. Genser, Stonewall. . . . .	$\frac{1}{2}$ " ..	20	Campbell Bros., Wilson, Winnipeg.
DISTRICT OF CALGARY—						
June 29	White Pepper..	28929	Star Trading Co., Wetaski- win.	3 tins. . .	30	White Star Mfg. Co., Winni- peg.
" 22	" ..	28935	Georgeson & Co., Ltd., Cal- gary.	3 pkgs. . .	30	Georgeson Co., Ltd., Calgary.
" 22	" ..	28936	L. T. Mewbwin & Co., Cal- gary.	3 " ..	25	Red Feather Co., Hamilton..
" 22	" ..	28937	G. F. & J. Galt, Ltd., Cal- gary.	3 " ..	25	Blue Ribbon Mfg. Co., Winni- peg.
" 22	" ..	28938	Donnelly, Watson & Brown, Calgary.	3 " ..	30	Pure Gold Mfg. Co., Ltd., Toronto.
" 22	" ..	28939	Campbell, Wilson & Horne, Ltd., Calgary.	3 " ..	25	Campbell Bros. & Wilson, Winnipeg.
" 26	" ..	28940	L. B. Cackrane, Medicine Hat.	3 " ..	30	Codville & Co., Winnipeg. . .
" 26	" ..	28941	Stewart & Tweed, Medicine Hat.	3 " ..	30	Hamilton Coffee & Spice Co., Hamilton.
" 27	" ..	28942	Hudsons Bay Co., Lethbridge	3 " ..	30	Unknown. . . . .
" 27	" ..	28943	Bently Co., Ltd., Lethbridge	3 " ..	30	Imperial Spice Co., Hamil- ton.



SESSIONAL PAPER No. 14

TABLE I—WHITE PEPPER.

Inspector's Report	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.	
	Water soluble.	Ash, per cent.				Microscopical Examination
		Total.	Soluble in acid, (Hydro chloric).	Insoluble in acid, (Hydro chloric) Sand		

J. TALBOT, INSPECTOR.—*Concluded.*

	p. c.	p. c.	p. c.	p. c.		
Not labelled		1.68			Contains wheat flour and cayenne.	Adulterated.
"		0.84			Pepper tissues only.	Genuine.
"		0.70				
"		2.28				
"		2.18				
"		1.92				

A. C. LARIVIERE, INSPECTOR.

Gold Standard Pure Ground White Pepper.	1.24	1.00	0.24	Pepper tissues only	Genuine.
"	1.44	1.34	0.10	Contains wheat flour	Adulterated
"	1.54	1.44	0.10	"	"
"	1.22	1.10	0.10	A little wheat flour	Doubtful
"	1.22	1.08	0.14	Pepper tissues only	Genuine
"	2.42	2.18	0.24	"	"
"	1.50	1.26	0.24	Contains wheat flour	Adulterated
"	1.16	0.92	0.24	Pepper tissues only	Genuine
"	1.36	1.28	0.16	"	"
"	1.42	1.34	0.08	Contains wheat flour.	Adulterated

R. W. FLETCHER, INSPECTOR.

"	1.02			Pepper tissues only	Genuine
"	1.10			"	"
"	0.90			"	"
"	1.04			"	"
"	1.06			"	"
"	1.44			Contains wheat flour.	Adulterated
"	0.94			Pepper tissues only	Genuine
"	0.80			"	"
"	0.94			"	"
"	2.10			"	"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF VANCOUVER—

1908.						
May 13	White Pepper...	34275	W. Clark, Vancouver.....	6 oz...	30	E. R. Durkee.....
" 13	" ..	34276	Labelle & Co., Vancouver...	12 " ...	30	Oriental Mills, Vancouver...
" 13	" ..	34277	J. Donald & Co., Vancouver.	12 " ...	25	W. H. Malkin & Co., Vancouver.
" 14	" ..	34278	C. E. Turner, Vancouver...	12 " ...	30	Braid & Co., Vancouver.....
" 14	" ..	34279	J. A. Dickie, Vancouver....	½ lb... ..	20	Hudsons Bay Co., Vancouver.
" 14	" ..	34280	Woodward Dept. Stores, 3 tins... Vancouver.		30	Braid & Co., Vancouver.....
" 14	" ..	34281	The People's Grocery, Van- 3 " .. couver.		30	W. J. McMillan & Co., Vancouver.
" 14	" ..	34282	Alex. Hogg, Fairview, Van- ½ lb.... couver.		20	W. H. Malkin & Co., Vancouver.
" 14	" ..	34283	J. D. Millar, Mount Pleasant, ½ " .. Vancouver.		20	Simon Leiser, Victoria.....
" 14	" ..	34284	Dickie & Co., Mount Plea- 3 tins... sant, Vancouver.		30	Kelly, Douglass & Co., Vancouver.

DISTRICT OF VICTORIA -

June 17	White Pepper...	34893	Windsor Grocery Co., Vic- ½ lb.... toria, B.C.		25	Pioneer Coffee & Spice Mills, Victoria, B.C.
" 17	" ..	34895	Saunders Grocery Co., Ltd., 3 tins... Victoria, B.C.		20	Victoria Coffee & Spice Mills, Victoria, B.C.
" 19	" ..	34901	W. Speed, Victoria, B.C....	½ lb... ..	20	Todhunter, Mitchell & Co., Toronto, Ont.
" 19	" ..	34903	" " ....	3 tins... ..	30	E. R. Durkee, New York ...
" 19	" ..	34904	Windsor Grocery Co., Vic- 3 " .. toria, B.C.		30	Pioneer Coffee & Spice Mills, Victoria, B.C.
" 22	" ..	34906	Acton Bros , Victoria, B.C..	½ lb.... ..	20	" " ..
" 22	" ..	34908	Dixi H. Ross & Co., Vic- ½ " .. toria, B.C.		20	J. A. Folger & Co., San Francisco, Cal.
" 22	" ..	34910	W. O. Wallace, Victoria, ¾ " .. B.C.		35	Empress Mfg. Co., Vancouver, B.C.
" 22	" ..	34915	" " ....	3 tins... ..	45	A. Shilling & Co., San Francisco, Cal.
" 23	" ..	34916	Victoria Rochdale Co-opera- 3 pkgs... tive Assoc., Victoria, B.C.		30	The Hamilton Coffee & Spice Co., Ltd., Hamilton, Ont.



SESSIONAL PAPER No. 14

TABLE I—WHITE PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.					Remarks and Opinion of the Chief Analyst.
	Water soluble.	Ash, per cent.			Microscopical Examination	
		Total.	Soluble in acid, Hydro- chloric.	Insoluble in acid, Hydro- chloric and		

J. F. POWER, INSPECTOR.

	p. c.	p. c.	p. c.	p. c.		
" Gauntlet Brand. Guaranteed perfectly pure. Guaranteed under the Food & Drug Act. Serial No. 5061.		1.02			Pepper tissues only.	Genuine.
Guaranteed to be of the finest quality, full strength and full weight.		1.04		..	"	"
Red Cross brand. Guaranteed absolutely pure.		0.96	0.84	0.12	"	"
Guaranteed absolutely pure....		1.30	1.20	0.10	"	"
		0.98			"	"
Specially put up for Woodward's. Guaranteed first quality.		0.96	0.82	0.14	"	"
Monarch brand. Pure ... ..		1.20	0.94	0.26	"	"
		1.10	0.88	0.22	"	"
		1.06	0.98	0.08	"	"
Columbia brand. Guaranteed finest quality, full strength and full weight.		1.26	1.02	0.24	"	"

D. O. SULLIVAN, INSPECTOR.

	1.00			Pepper tissues only....	Genuine.
Victoria brand Pure White Pepper.	1.14			Contains wheat flour and cayenne.	Adulterated.
Put up in 25 lb. wooden pails. Guaranteed pure.	0.86			Pepper tissues only.	Genuine.
Marked "Durkee's Gauntlet Brand.	0.80			"	"
Marked "Empire Brand." Extra quality.	0.90			"	"
	0.90			"	"
Put up in 25 lb. wooden pails. Marked pure.	2.06			"	"
	0.98			"	"
Marked Shillings Best White Pepper.	1.08			"	"
Marked Thistle Pure White Pepper.	2.04			"	"



9-10 EDWARD VII., A. 1910

BULLETIN No. 165—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

## DISTRICT OF NOVA SCOTIA—

1908.						
May 12	Black Pepper ...	33650	John P. Mott & Co., Halifax, N.S.	6 oz...	.....	Vendors.....
" 12	" ...	33651	Wentzell's, Limited, Halifax, N.S.	6 " ...	15	John P. Mott & Co., Halifax, N.S.
" 13	" ...	33657	Craig & Hodgson, Halifax, N.S.	8 " ...	15	Canadian Drug Co., St. John, N.B.
" 13	" ...	33658	E. B. Tracey, Halifax, N.S.	12 " ...	21	John P. Mott & Co., Halifax, N.S.
" 13	" ...	33659	E. Donahoe & Son, Halifax, N.S.	12 " ...	21	W. H. Schwartz & Son, Halifax, N.S.
" 13	" ...	33660	Nat. Drug & Chem. Co., Halifax.	12 " ...	15	Vendors. ....
" 14	" ...	33661	Larder, Hubley & Co., Halifax, N.S.	8 " ...	20	Todhunter, Mitchell & Co., Toronto, Ont.
" 14	" ...	33662	I. Moser, Halifax, N.S.	12 " ...	24	W. H. Schwartz & Sons, Halifax, N.S.
" 14	" ...	33663	Walter Taylor, Halifax, N.S.	12 " ...	25	Robt. Creig & Co., Ltd., Toronto, Ont.
" 21	" ...	33664	E. E. O'Brien & Co., Truro, N.S.	12 " ...	24	W. H. Schwartz & Sons, Halifax, N.S.

## DISTRICT OF PRINCE EDWARD ISLAND—

May 14	Black Pepper...	31271	Geo. Rockham, Charlottetown.	½ lb....	15	Carvell Bros., Charlottetown.
" 14	" ...	31272	M. Duffy, Charlottetown...	½ " ....	20	John P. Mott & Co., Halifax.
" 14	" ...	31273	W. W. Walker, Charlottetown.	½ " ....	16	W. H. Schwartz & Co., Halifax.
" 19	" ...	31274	A. J. McDonald, Souris....	3 pkgs..	27	Carvell Bros., Charlottetown.
" 19	" ...	31275	W. D. Currie, Souris.....	3 " ..	24	J. P. Mott & Co., Halifax...
" 19	" ...	31276	Sterns Bros., Souris.....	3 " ..	24	Nat. Drug & Chemical Co., Halifax.
" 21	" ...	31277	A. McLean, Georgetown....	3 " ..	24	The Greig Co., Ltd., Toronto.
" 26	" ...	31278	McMurdo Bros., Summerside	½ lb. ...	13	Hudon, Hebert & Co., Ltd., Montreal.
" 27	" ...	31279	McFadyen & McLellan, Summerside.	½ " ...	20	Can. Drug Co., Halifax.....
" 27	" ...	31280	T. A. Hynes, Kensington...	3 pkgs..	27	G. E. Barbour, St. John....



SESSIONAL PAPER No. 14

TABLE II—BLACK PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.	
	Water soluble.	Ash, per cent.				Microscopical Examination
		Total.	Soluble in acid, (Hydro- chloric).	Insoluble in acid, (Hydro- chloric)-Sand		

R. J. WAUGH, INSPECTOR.

	p. c.	p. c.	p. c.	p. c.		
Guaranteed pure.....	..	4.48			Pepper tissues only.....	Genuine.
Labelled, Pure Ground Pepper.	..	4.60				"
Sold as best Black Pepper; taken from stock.		4.42				"
Labelled, Strictly Pure.		4.46				"
Peerless Brand. Labelled, Strictly Pure.		5.18				"
Sovereign Brand. Labelled, Guaranteed Pure.	..	5.00				"
Taken from bulk; sold as pure.		3.40				"
Peerless Brand; sold as pure.		4.86				"
Labelled, Phoenix Black Pepper, with the word 'Mixture' in small letters over the word pepper. Forwarded in original packages.		3.74			Wheat and maize starch ..	Adulterated.
Peerless Brand. Labelled Strictly Pure.		4.48			Pepper tissues only.	Genuine.

T. MOORE, INSPECTOR.

.....	..	4.58			Pepper tissues only.	Genuine.
.....	..	5.06				"
.....	..	4.68				"
Pepper unadulterated; perfection.		4.38				"
Ground Pepper, guaranteed strictly pure.		4.26				"
Pure as Gold; unadulterated..		5.60				"
Phoenix Spices.. Extra choice mixture Black Pepper.		4.02			Maize and wheat starch...	Adulterated.
.....	..	5.32			Pepper tissues only. . .	Genuine.
.....	..	4.30				"
Acorn Brand. Strictly pure pepper ground from selected whole spice free from filler or shells.	...	4.78				"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF NEW BRUNSWICK—

1908.						
May	13	Black Pepper...	29702 G. E. Barbour & Co., Ltd., 11-12 North Wharf, St. John, N.B.	3 cart'ns	18	G. E. Barbour & Co., Ltd., 11-12 North Wharf, St. John, N.B.
"	20	"	29703 N. W. Eveleigh & Co., Main St., Sussex, Kings Co., N.B.	½ lb....	15	C. H. Cochrane & Co., Ottawa, Ont.
"	22	"	29704 T. & F. Dobson, Grocers, Main St., Moncton, N.B.	½ " ..	15	Not known.....
"	23	"	29705 Baird & Peters, Public Wharf, Newcastle, N.B.	3 cart'ns	25	Jno. P. Mott & Co., Halifax, N.S.
"	27	"	29706 Wm. Currie & Co., Ltd., Water St., Campbelltown, N.B.	3 " ..	30	Bowman & Cole, St. John, N.B.
June	4	"	29707 P. F. McKenna, King St., St. Stephen, N.B.	½ lb....	15	" " ....
"	8	"	29708 John Graham Estate, Queen St., Woodstock, N.B.	½ " ..	15	Geo. E. Barbour & Co., Ltd., North Wharf, St. John, N.B.
"	8	"	29709 W. S. Skillen, Main St., Woodstock, N.B.	½ " ..	15	" " ....
	10	"	29710 F. D. Sadler, Perth, Victoria Co., N.B.	3 cart'ns	24	The Robt., Greig Co., Ltd., Toronto.
	10	"	29711 Geo. T. Baird Co., Ltd., Perth, Victoria Co., N.B.	¼ " ..	24	Dearborn & Co., St. John, N.B.

DISTRICT OF QUEBEC—

May	12	Black Pepper...	26420 Joseph Boivin, Portneuf....	½ " ..	13	N. Rioux & Cie, Quebec....
"	12	"	26424 Marie Richard, Portneuf ..	½ " ..	12	Whitlead & Turner, Que bec.
"	13	"	26425 Jos. Falardeau, Cap Santé..	½ " ..	10	N. Rioux & Cie, Quebec....
"	13	"	26427 Elzéar Gérard, Cap Santé ..	½ " ..	13	N. Turcotte & Cie, Quebec ..
"	13	"	26430 F. X. Paquet, Cap Santé....	½ " ..	10	Leclerc & Letellier, Quebec..
"	13	"	26434 A. Bernard, Cap Santé.....	½ " ..	10	A. A. J. Gingras, Quebec. ..
"	14	"	26436 Joseph O. Lefèvre, Portneuf ½	" .	11	Quebec Preserving Co., Que bec.
"	14	"	26437 Ludger Belleau, Portneuf... ½	" ..	10	" " ..
"	14	"	26438 Napoleon Pleau, St. Basile.. ½	" ..	14	N. Turcotte & Co., Quebec .
"	14	"	26440 Geo. Montreuil, St. Basile.. ½	" ..	10	T. B. E. Latellier, Quebec..
"	14	"	26441 Chas. Latulippe, St. Basile, ½	" ..	13	Lavoie & Latulippe, Quebec.
"	14	"	26444 Edmond Germain, St. Basile ½	" ..	20	N. Turcotte & Co., Quebec..
"	14	"	26447 Adjutor Thibadeau, St. Basile ½	" ..	13	Boivin & Grenier, Quebec. .



SESSIONAL PAPER No. 14

TABLE II.—BLACK PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.					Remarks and Opinion of the Chief Analyst.
	Water soluble.	Ash, per cent.				
		Total.	Soluble in acid, (Hydrochloric).	Insoluble in acid, (Hydrochloric).	Microscopical Examination.	
J. C. FERGUSON, INSPECTOR.						
	p. c.	p. c.	p. c.	p. c.		
Acorn brand. Strictly pure Pepper. Guaranteed. Quality counts.		4.32			Pepper tissues only	Genuine.
.....		4.78			Trace of wheat flour	Doubtful.
Sample taken in bulk from spice can on shelf.		4.94			Pepper tissues only	Genuine.
Reindeer brand Pepper. ½ lb., full weight.	.....	4.60				
Thistle brand Black Pepper. Bowman & Cole Spices. Guaranteed to be pure, ½ lb., full weight.	.....	4.36			Wheat flour and cayenne.	Adulterated.
In bulk from spice can in store.	.....	4.60			Wheat flour	
"Acorn Brand." From ½ barrel.	.....	4.30			Pepper tissues only.....	Genuine.
Acorn Brand. From spice can on shelf.	....	4.90			" " .....	
Phoenix Extra. Pure Spices Black Pepper.	....	3.96			Wheat flour	Adulterated.
Perfection Brand Ground Pepper. Absolutely pure. The goods sold under this brand are absolutely pure.	.....	6.28	4.28	2.00	Pepper tissues only	Genuine.
E. BELAND, INSPECTOR.						
.....		5.78			Pepper tissues only	Genuine.
.....		4.14				Very coarsely ground.
.....		5.62				Genuine.
.....		5.16				
.....		4.40				
.....		4.78				
.....		5.76			Wheat flour	Adulterated.
.....		11.60	4.76	6.84	Pepper tissues only....	Too high ash. Adulterated.
Only one sample.....		5.36				Genuine.
.....		4.82				
.....		6.14	3.46	2.68	Wheat and maize starch	Adulterated.
.....	0.56	12.90	4.44	14.90	Wheat flour	
.....	0.88	9.32	3.74	4.70		



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF ST. HYACINTHE—						
1908.						
May 11	Black Pepper...	129	P. C. Lenome, Sorel.....	1 lb.....	20	J. B. Boudrais, Montreal ...
" 12	" ...	130	J. E. R. Deschenaux, Pierre-ville.	1 " ...	25	E. Alley, Pierreville .....
" 13	" ...	132	O. Hebert, Iberville.....	1 " ....	22	Lacaille, Gendreau & Cie., Montreal.
" 13	" ...	133	E. J. Plante, St. Jean.....	1 " ....	24	Not known. ....
" 14	" ...	134	J. Hubert & fils, Granby....	1 " ....	20	Hudon, Hebert & Cie., Mont-real.
" 14	" ...	135	L. Elms, Farnham. ....	3 pkgs..	24	S. H. & A. S. Ewing, Mont-real.
" 18	" ...	136	Ginn & Elliot, Richmond...	1 lb.....	25	Mathewson Sons, Montreal..
" 18	" ...	137	Lambert & Lambert, Bromptonville.	1 " ....	30	S. H. Ewing & Sons, Mont-real.
" 19	" ...	138	E. J. Planche & Co., Cook-shire.	3 pkgs..	24	Mathewson Sons, Montreal..
" 19	" ..	139	Denault Grain & Provision Co., Sherbrooke.	1 lb.....	10	Lyon Silverman, Montreal...
DISTRICT OF MONTREAL—						
May 11	Black Pepper...	32937	J. A. Simard & Cie, 305 St. Paul St., Montreal.	½ lb.....	10	Vendors.....
" 11	" ...	32938	J. J. Duffy & Co., 375 St. Paul St., Montreal.	½ " ....	10	" .....
" 11	" ...	32939	S. H. Ewing & Sons, 98 King St., Montreal.	½ " ....	10	" .....
" 11	" ...	32940	Heron Leblanc, Ltd., 573 St. Paul St., Montreal.	½ " ...	10	" .....
" 11	" ...	32941	J. Labranche, 535 Notre Dame East, Montreal.	½ " ....	10	Vendor.....
" 12	" ...	32942	J. V. Boudrais, 222 Notre Dame East, Montreal.	½ " ....	8	" .....
" 12	" ...	32943	Theodore Lefebvre & Co., Gosford St., Montreal.	½ " ....	8	Vendors.....
" 18	" ...	32944	M. Charette, St. Joseph St., Lachine, P.Q.	½ " ...	10	Laporte, Martin & Cie., Mont-real.
" 18	" ...	32945	J. M. Beaudoin, Notre Dame St., Lachine, P.Q.	½ " ....	18	" " ..
" 18	" ...	32946	George Stroud, 529 St. Catherine E., Montreal.	½ " ....	20	S. H. Ewing & Sons, Mont-real.



## SESSIONAL PAPER No. 14

TABLE II—BLACK PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.				Microscopical Examination.	Remarks and Opinion of the Chief Analyst.
	Water Soluble.	Ash, per cent.				
		Total.	Soluble in acid (Hydrochloric)	Insoluble in acid (Hydrochloric), Sand		
J. C. ROULEAU, INSPECTOR.						
	p.c.	p.c.	p.c.	p.c.		
Box marked, pure ground Black Pepper.		5.94			Pepper tissues only.....	Genuine.
.....	1.00	7.40	2.84	3.56	Wheat flour and other foreign tissues.	Adulterated.
Box marked, Pure Black Pepper		5.34			Pepper tissues only.....	Genuine.
From drawer under shelf		4.44				
From pail marked, Arrow. Pure ground Black Pepper.	0.72	8.12	3.06	4.34	Wheat and maize starch and other foreign tissues.	Adulterated.
Prince of Wales Brand Spices. Pure Black Pepper.		4.26			Pepper tissues only...	Genuine.
.....	0.60	11.36	2.86	7.90	Wheat flour and foreign tissues.	Adulterated.
After telling vendor sample was for analysis, he said he sold it for compound. On examination I could not find the word compound. Vendor thought it was a compound, but he bought it for pure.	0.82	5.44	1.86	2.76	Wheat flour and cayenne..	
Box marked Black Pepper 'M. Put up for Matthewson's Sons, Montreal.	0.60	16.16	4.06	11.50	" " "	
Box marked, Pure Black Pepper	1.40	11.38	4.04	5.94		
J. J. COSTIGAN, INSPECTOR.						
.....		5.46			Pepper tissues only	Genuine.
.....		6.10	3.80	2.30		
.....		4.42				
.....		4.60			Wheat starch.	Doubtful.
Vendor is successor to E. Painchaud, coffee and spice manufacturer. Sample taken from stock bought from said E. Painchaud.		9.36	4.40	4.96	Maize and wheat starch and foreign tissues.	Adulterated.
.....		11.76	5.58	6.18	Pepper tissues only	Ash too high. Adulterated.
.....		4.54				Genuine.
.....	0.80	13.14	3.84	8.50	Maize and wheat flour and apparently cayenne.	Adulterated.
.....		14.50	5.10	9.40	Pepper tissues only	Ash too high. Adulterated.
After purchase vendor said that sample should have been offered as compound.		7.16	3.00	4.16	Wheat flour	Adulterated.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF OTTAWA—

1908.						
May 14	Black Pepper...	34170	W. C. Scott, Cor. Nicholas and Laurier Ave., Ottawa, Ont.	½ lb....	20	Not known.....
" 15	" ...	34180	J. Bambrick, By Ward Market, Ottawa, Ont.	½ " ...	13	J. M. Low, Ltd., Toronto, Ont.
" 15	" ...	34181	F. W. Forde, 189 Rideau St., Ottawa, Ont.	½ " ...	15	C. H. Cochrane & Co., Ottawa.
" 15	" ...	34182	M. T. Pinkerton, Cor. Dalhousie and Rideau Sts., Ottawa, Ont.	½ " ...	15	" " ..
" 16	" ...	34183	J. G. Stewart, 273-275 Bank St., Ottawa, Ont.	½ " ...	20	" " ..
" 16	" ...	34184	Bryson, Graham & Co., 33 O'Connor St., Ottawa, Ont.	½ " ...	15	Not known.....
" 16	" ...	34185	T. Lindsay, Ltd., Sussex St., Ottawa, Ont.	½ " ....	15	" ..
" 21	" ...	34186	A. Meehan & Son, Pembroke, Ont.	½ " ....	13	Gorman & Eckert, London..
" 26	" ...	34187	W. & J. Meikle, Morrisburg, Ont.	½ " ....	13	Not known.....
" 29	" ...	34188	The A. B. Scott Co., Smith's Falls, Ont.	½ " ..	15	Gorman, Eckert & Co., London.

DISTRICT OF KINGSTON—

May 12	Black Pepper...	35237	R. Elvies, Front St., Belleville, Ont.	½ lb....	12	John Sloan, Belleville.....
" 12	" ...	35238	H. E. Fairfield, Front St., Belleville, Ont.	½ " ....	13	" " ..
" 12	" ...	35239	J. Harker, Front St., Belleville, Ont.	½ " ...	13	Greig Co., Toronto.....
" 14	" ...	35240	John Curtis, Port Hope.....	½ " ....	14	Todhunter & Mitchell, Toronto.
" 14	" ...	35241	J. Dunfee, Port Hope.....	½ " ....	20	Pure Gold, Toronto. ....
" 14	" ...	35242	S. Fourt, Port Hope .....	½ " ....	15	The Red Feather Co. (W. H. Gillard), Hamilton.
" 15	" ..	35243	W. J. Roulty, Charlotte St., Peterboro'.	½ " ....	20	S. H. Ewing & Son, Montreal.
" 15	" ...	35244	J. Sutherland, George St., Peterboro'.	½ " ....	15	F. F. Dally Co., Hamilton...
" 12	" ...	35245	A. J. McCrodan, Front St., Belleville.	½ " ....	13	Todhunter & Mitchell, Toronto.
" 14	" ...	35246	Mason Co., Peterboro'.....	½ " ....	20	" " ..



SESSIONAL PAPER No. 14

TABLE II—BLACK PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.	
	Water soluble.	Ash, per cent.				Microscopical Examination
		Total.	Soluble in acid, (Hydro- chloric).	Insoluble in acid, (Hydro- chloric) Sand		

J. A. RICKEY, INSPECTOR.

	p. c.	p. c.	p. c.	p. c.		
After purchase of sample a clerk said he did not think pepper was pure, as it was stock purchased from a former proprietor. Sold as Black Pepper.		3.84	3.36	0.48	Wheat present.	Adulterated.
Sold as Black Pepper from bulk		4.76			Pepper tissues only.	Genuine.
		4.90				
		5.04				
Said it was the best that they could buy. Sold as Black Pepper from bulk.		4.22				
Sold as Black Pepper	0.86	14.56	4.60	9.10		Ash too high. Adulterated.
		5.00				Genuine.
Sold as pure Black Pepper		4.24				
Vendor said it was supposed to be Pure No. 2 Black Pepper.						
Sold as Black Pepper		4.86				
		4.98				

J. HOGAN, INSPECTOR.

	5.08		Pepper tissues only.	Genuine.
	4.90			
	4.64		Wheat present.	Adulterated.
	5.00		Pepper tissues only.	Genuine.
	4.62			
	4.64			
	4.56	0.00		
	3.80	0.00		
	4.72	0.00		
	4.50	0.00		



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BULLETIN No. 165—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF TORONTO—

1908.						
May 11	Black Pepper...	35069	P. & R. Laing, King St., Dundas.	½ lb ....	15	Hamilton Coffee & Spice Co., Ltd., Hamilton.
" 12	" ....	35070	Alderidge & Avery, Caledonia.	½ " ....	13	Balfour, Smye & Co., Hamilton.
" 13	" ....	35071	T. J. Galbraith & Son, Dunnville.	½ " ....	15	Hamilton Coffee & Spice Co., Ltd., Hamilton.
" 14	" ....	35072	L. Anguish, Cayuga....	½ " ....	13	" " ..
" 19	" ....	35073	W. R. Krafft, Bridgeburg...	½ " ....	15	Gorman, Eckert & Co., Ltd., London.
" 21	" ....	35074	A. F. Hawke, Grimsby.....	½ " ....	15	F. F. Dally Co., Ltd., Hamilton.
" 21	" ....	35075	S. Nash, Stoney Creek.....	½ " ....	12	" " ..
" 23	" ....	35076	D. Le Barre, Oakville. ....	½ " ....	13	Macpherson, Glassco & Co., Hamilton.
" 26	" ....	35077	A. Miller, 389 Church St., Toronto.	½ " ...	15	Dalton Bros., Toronto.....
" 26	" ....	35078	D. McEachern, 934 Bloor St., Toronto.	½ " ....	13	" " ..

DISTRICT OF LONDON—

May 12	Black Pepper...	30497	O. C. Whitely, Goderich....	.....	.....	A. M. Smith & Co., London.
" 14	" ....	30901	J. D. Smith, St. Mary's ....	1 lb ....	30	Not known.....
" 15	" ....	30906	Mr. Sandy, Seaforth ....	1 " ...	25	Kruse Bros.....
" 1	" ....	30915	T. J. Molyneat, Dublin.....	1 " ....	25	Not known .....
" 20	" ....	30918	J. A. Monteath & Co., Stratford.	¾ " ....	23	J. A. Monteath (Canada Spice & Grocery Co.), Stratford.
" 27	" ....	30926	Popplestone & Gardner, Blythe.	¾ " ....	25	Gorman & Eckert, London..
" 27	" ....	30929	J. J. Kerr, Wingham ..	1 " ...	30	Masurett & Co., London....
June 30	" ....	30934	William Stoneman, Mitchell, Ont.	1 " ...	20	Pure Gold Mfg. Co., Toronto.
" 30	" ....	30936	Harrison & Wietsie, Clinton.	1 " ...	25	Gorman & Eckert, London ..
" 30	" ....	30937	Geo. McLennon, Clinton...	1 " ...	22	W. H. Gillard & Co., Hamilton.



SESSIONAL PAPER No. 14

TABLE II—BLACK PEPPER.

Inspector's Report.	RESULTS OF ANALYSIS.					Remarks and Opinions of the Chief Analyst.	
	Water soluble.	Ash, per cent.					Microscopical Examination
		Total.	Soluble in acid, (Hydro- chloric).	Insoluble in acid, (Hydro- chloric). Sand			

H. J. DAGER, INSPECTOR.

	p. c.	p. c.	p. c.	p. c.		
Sample from stock tin on shelf		4.12			Pepper tissues only.....	Genuine.
Sample from stock tin on shelf		4.90				
Vendor said it was pure pepper.						
Sample from stock tin on shelf		4.58				
" " "		6.68	4.60	2.08		
Sample from 25-lb. pail labelled, 25 lbs. Singapore Forest City Pure Spices. Gorman, Eckert & Co., Ltd. Pepper.		5.08				
Sample taken from stock in shop.		5.62			Trace of wheat flour ....	Doubtful.
Sample from stock tin on shelf. ....		4.40			Pepper tissues only.....	Genuine.
Sample from stock tin on shelf. ....		4.60			Wheat flour . . . . .	Adulterated.
Vendor bought it for pure pepper.						
Sample from tin branded, Dalton's Extra Select Spices. Black Pepper.		4.62			Pepper tissues only .....	Genuine.
Sample from stock tin. Vendor says he buys it in 5 lbs. at a time.		5.04				"

T. KIDD, INSPECTOR.

.....	4.58	.....	.....	Pepper tissues only.	Genuine.
.....	4.68			Wheat flour.....	Adulterated.
.....	4.34	.....			Doubtful.
.....	3.78	.....		Maize and wheat starch and other foreign tissue.	Adulterated.
.....	6.10	3.64	2.50	Pepper tissues only.	Genuine.
.....	5.72	.....		Trace of wheat flour....	Doubtful.
.....	4.30	.....			Adulterated.
.....	5.25			Pepper tissues only	Genuine.
.....	5.04				
.....	4.90				



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BULLETIN No. 165—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF WINDSOR—						
1908.						
May 15	Black Pepper...	34539	C. R. Polley, Petrolia.....	$\frac{1}{2}$ lb....	15	T. Kenny Co., Sarnia .. ....
" 15	" ..	34540	F. J. Wood, Petrolia.. ....	$\frac{1}{2}$ " ..	20	Pure Gold Mfg. Co., Toronto.
" 19	" ..	34553	W. G. Brown, Stratford ....	$\frac{1}{2}$ " ..	20	Canada Spice Co., London...
June 9	" ..	34557	G. Norman Willets, Brantford.	$\frac{1}{2}$ " ..	20	Hamilton Coffee & Spice Co..
" 10	" ..	34562	Jno. Scott & Co., Woodstock	$\frac{1}{2}$ " ..	13	Gorman & Eckert, London..
" 10	" ..	34565	Fury and Thompson .....	$\frac{1}{2}$ " ..	25	" " .....
" 10	" ..	34566	F. C. Tate, Woodstock .....	$\frac{1}{2}$ " ..	15	" " .....
" 10	" ..	34570	G. C. Minhennick, Ingersoll.	$\frac{1}{2}$ " ..	15	Lucas, Steele & Bristol, Hamilton.
" 10	" ..	34572	Robert Stewart, " ..	$\frac{1}{2}$ " ..	15	" " .....
DISTRICT OF MANITOBA—						
May 19	Black Pepper...	33138	Wright & Co., Minnedosa...	$\frac{1}{2}$ lb....	30	Codville, Georgeson Co., Ltd., Winnipeg.
" 19	" ..	33139	P.J. McDermott, Minnedosa	$\frac{1}{2}$ " ..	15	Not given.....
" 21	" ..	33140	W. T. Francis, Norwood Grove P.O., St. Boniface.	$\frac{1}{2}$ " ..	15	The Dyson Co., Winnipeg...
" 21	" ..	33141	H. Sylvester, NorwoodGrove, P.O., St. Boniface.	$\frac{1}{2}$ " ..	20	The Jobin-Marrin Co., Ltd., Winnipeg.
" 22	" ..	33142	McArthur Grocery Co., Logan Ave., Winnipeg.	$\frac{1}{2}$ " ..	20	The Codville Georgeson Co., Ltd., Winnipeg.
" 22	" ..	33143	The Swedish Importing & Grocery Co., Ltd., Winni-peg.	$\frac{1}{2}$ " ..	20	Not given.....
" 27	" ..	33144	C. Finkleman, West Selkirk.	3 pkts..	25	The Jobin-Marrin Co., Ltd., Winnipeg.
" 27	" ..	33145	W. Epstein, West Selkirk...	$\frac{1}{2}$ lb....	20	" " .....
" 27	" ..	33146	R. Bullock, West Selkirk....	$\frac{1}{2}$ " ..	20	The Codville Co., Ltd.....
" 28	" ..	33147	I. Genser, Stonewall....	$\frac{1}{2}$ " ..	15	Campbell Bros., Wilson, Winnipeg.
DISTRICT OF CALGARY—						
June 22	Black Pepper...	28945	Georgeson & Co., Ltd., Cal-gary.	3 pkgs..	30	Georgeson & Co., Ltd., Cal-gary.
" 22	" ..	28946	L. T. Mewburn & Co., Cal-gary.	3 " ..	20	Red Feather Co., Hamilton..
" 22	" ..	28947	G. F. & J. Galt, Ltd., Calgary	3 " ..	20	Blue Ribbon Mfg. Co., Win-nipeg.
" 22	" ..	28948	Dennelly, Watson & Brown, 3 Calgary.	" ..	25	Pure Gold Mfg. Co., Toronto.
" 22	" ..	28949	Campbell, Wilson & Horne, 3 Calgary.	" ..	20	Campbell Bros. & Wilson, Winnipeg.
" 26	" ..	28950	L.B. Cockran, Medicine Hat.	3 " ..	30	Codville & Co, Ltd., Winni-peg.



SESSIONAL PAPER No. 14

TABLE II.—BLACK PEPPER.

Inspector's Report.		RESULTS OF ANALYSIS.					Remarks and Opinion of the Chief Analyst.
		Water soluble.	Ash, per cent.				
			Total.	Soluble in acid, (Hydro- chloric).	Insoluble in acid, (Hydro- chloric). Sand	Microscopical Examination	
J. A. TALBOT, INSPECTOR.							
No. label.	No marks	p. c.	p. c.	p. c.	p. c.		
			4.38			Some wheat flour	Doubtful.
Analyst's Certificate on tub. Marked ash 4.54 p.c. Pepper tissue only. J. C. Jamieson			4.50			Pepper tissues only.....	Genuine.
Delivered in pail. Could not find pail with label on.			6.04	4.74	1.30		
Not labelled.			4.62				
.....			5.60				
.....			5.30				
.....			5.54				
.....			5.50				
.....			5.92				
A. C. LARIVIERE, INSPECTOR.							
Gold Standard.	Pure ground.		6.34	4.44	1.90	Pepper tissues only..	Genuine.
.....	.....		4.06			Wheat flour.	Adulterated.
.....	.....		3.44			"	"
.....	.....		4.52			"	"
.....	.....		6.36	4.32	2.04	Pepper tissues only.	Genuine.
.....	.....		4.86			"	"
Ground specially for family use Extra quality Black Pepper Choice ground.			3.96			Wheat flour and foreign tissues.	Adulterated.
.....	.....		4.14			Pepper tissues only.	Genuine.
Sold as Compound			5.70			"	"
.....	.....	1.14	6.90	2.68	3.08	"	"
R. W. FLETCHER, INSPECTOR.							
.....	.....		5.72			Pepper tissues only.....	Genuine.
.....	.....		5.80			"	"
.....	.....		4.56			"	"
.....	.....		4.10			"	"
.....	.....		4.08			Contains wheat flour and perhaps cayenne.	Adulterated.
.....	.....		5.30			Pepper tissues only.	Genuine.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF CALGARY—						
1908.						
June 26	Black Pepper...	28951	Stewart & Tweed, Medicine Hat.	3 pkgs.	30	Hamilton Coffee & Spice Co., Ltd., Hamilton.
" 27	" ...	28952	Hudson Bay Co., Lethbridge	3 "	30	Gorman, Eckert & Co., London, Ont.
" 27	" ...	28953	Bently Co., Lethbridge.....	3 "	30	Imperial Spice Co., Hamilton.
" 27	" ...	28954	Rodell Bros. & Lake Co., Ltd., Wetaskiwin.	3 "	30	Dyson & Co., Winnipeg.....
DISTRICT OF VANCOUVER—						
May 13	Black Pepper...	34265	W. Clark, Vancouver.....	6 oz...	30	E. R. Durkee & Co.....
" 13	" ...	34266	Labelle & Co., Vancouver...	12 " ...	30	Oriental Mills, Vancouver...
" 13	" ...	34267	Tullidge's Cash Grocery, Vancouver.	$\frac{1}{2}$ lb...	15	Empress Mfg. Co., Vancouver.
" 14	" ...	34268	C. E. Turner, Vancouver...	12 oz...	30	Braid & Co., Vancouver.....
" 14	" ...	24269	J. A. Dickie, Vancouver....	$\frac{1}{2}$ " ...	20	Hudson Bay Co., Vancouver.
" 14	" ...	34270	Woodward Dept. Stores, Vancouver.	3 tins..	30	Braid & Co., Vancouver.....
" 14	" ...	34271	The People's Grocery, Vancouver.	3 "	30	W. J. McMillan, Vancouver.
" 14	" ...	34272	A. Hogg, Fairview, Vancouver.	$\frac{1}{2}$ " .	20	W. A. Malkin, Vancouver...
" 14	" ..	24273	J. D. Miller, Mount Pleasant, Vancouver.	$\frac{1}{2}$ " .	20	S. Leiser, Victoria .....
" 14	" ...	34274	Dickie & Co., Mount Pleasant, Vancouver.	3 " .	30	Kelly, Douglas & Co., Vancouver.
DISTRICT OF VICTORIA—						
June 17	Black Pepper...	34892	Windsor Grocery Co., Victoria, B.C.	$\frac{1}{2}$ lb...	25	Pioneer Coffee & Spice Mills, Victoria, B.C.
" 17	" ...	34896	Saunders Grocery Co., Ltd., Victoria, B.C.	3 tins..	20	Todhunter, Mitchell & Co., Toronto, Ont.
" 19	" ...	34900	W. Speed, Victoria, B.C....	$\frac{1}{2}$ lb...	20	" "
" 19	" ..	34902	" " ....	3 tins..	30	E. R. Durkee, New York...
" 19	" ...	34905	Windsor Grocery Co., Victoria, B.C.	3 " .	30	Pioneer Coffee & Spice Mills, Victoria, B.C.
" 22	" ..	34907	Acton Bros., Victoria, B.C..	$\frac{1}{2}$ lb...	25	" " ..
" 22	" ...	34909	F. Carne, Victoria, B.C.....	3 tins..	30	" " ..
" 22	" ...	34911	Dixie H. Ross & Co., Victoria, B.C.	$\frac{1}{2}$ lb...	20	J. A. Folger & Co., San Francisco, Cal.
" 22	" ..	34913	W. O. Wallace, Victoria, B.C.	$\frac{1}{4}$ " ...	40	Empress Mfg. Co., Vancouver, B.C.
" 22	" ...	34914	" " ..	3 tins..	45	A. Shilling & Co., San Francisco, Cal.



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TABLE II.—BLACK PEPPER.

		RESULTS OF ANALYSIS.					
Inspector's Report.	Water Soluble.	Ash, per cent.			Microscopical Examination.	Remarks and Opinion of the Chief Analyst.	
		Total.	Soluble in Acid (Hydrochloric).	Insoluble in Acid (Hydrochloric), Sand.			
R. W. FLETCHER, INSPECTOR							
	p.c.	p.c.	p.c.	p.c.			
.....		4.26			Pepper tissues only	Genuine.	
.....		5.08					
.....		5.54				"	
.....		3.22			Contains wheat flour and foreign tissues.	Adulterated.	
J. F. POWER, INSPECTOR.							
Gauntlet Brand. Warranted pure. Guaranteed under Food & Drugs Act. Serial No. 5061. The spice in this can is guaranteed to be of the best quality. Full strength and full weight.		4.52			Pepper tissues only	Genuine.	
.....		3.40					
.....		4.44					
Guaranteed absolutely pure....		4.16					
.....		3.28					
Specially put up for Woodward. Guaranteed first quality.		2.96					
'Monarch Brand.' Pure spice.		4.44		0.82	Wheat starch.	Adulterated.	
.....		3.60			Pepper tissues only.	Genuine.	
.....		4.72			Some wheat flour	Doubtful.	
Columbia Brand Pure Spice. The spice in this can is guaranteed to be the finest quality. Full strength and full weight.		4.82			Pepper tissues only	Genuine.	
D. O'SULLIVAN, INSPECTOR.							
.....		4.98			Pepper tissues only	Genuine.	
Todhunter's Pure Select Black Pepper.		4.68					
Put up in 25-lb. wooden pails, marked pure.		6.22	4.98	1.24			
Marked Durkee's Gauntlet Brand.		5.30					
Marked Empire Brand, Extra Quality.		4.36					
.....		5.34					
Marked Empire Brand, Extra Quality.		4.32					
Put up in 25-lb. wooden pails, marked pure.		10.90	6.28	4.62		Ash too high.	
"		5.80				Adulterated.	
Marked Schilling's Best Pepper.		4.64				Genuine.	



APPENDIX P.

BULLETIN No. 166—UNFERMENTED GRAPE JUICE.

OTTAWA, December 3, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon a collection of 70 samples of Unfermented Grape Juice, made during July and August of this year. Sixty-eight of these samples were obtained in the usual way, by our inspectors; the remaining two samples were subsequently sent in by Mr. Inspector Dager of Toronto \*

Two samples from St. Hyacinthe were received in spoiled condition by the analyst, and the following five samples appear to be fermented wines, and not grape juice ;—

No. 29738—St. John, N.B., by Mr. Inspector Ferguson, contains 10·67 per cent of proof spirit, is labelled Unfermented Grape Juice. Pelee Island Wine and Vineyards Co., Brantford and Pelee Island.

No. 32613—Montreal, by Mr. Inspector Costigan, contains 18·81 per cent of proof spirit, is labelled Unfermented Grape Juice, for Sacramental and Medical use. Expressed and bottled by Charles E. Scarff, Montreal.

No. 34604 St. Mary's, Ont., by Mr. Inspector Talbot, contains 24·69 per cent of proof spirit, is labelled Pure Canadian Grape Wine, and should not have been purchased or sold as unfermented Grape Juice. Manufacturer as given by vendor is the Niagara Falls Wine Co.

No. 35342—Calgary, by Mr. Inspector Fletcher, contains 31·32 per cent of proof spirit, is labelled Gely's Non-Alcoholic Wine. Augusta Gely, Taragona, Spain. "This wine is produced from the pure grape juice only, and warranted free from any alcohol."

This is evidently intended to imply that no alcohol, as such, has been added to the wine. It should not have been offered as unfermented.

No. 34313—Vancouver, by Mr. Inspector Power, contains 25·01 per cent, of proof spirit, is not labelled by the manufacturer. A written label, affixed by vendor (Woodward Dept. Stores, Vancouver). has the words "Unfermented Grape Juice." The article is a fermented wine. Vendor states it to be produced by the Ontario Grape and Wine Co., St. Catherines.\*

		P. c. proof spirit.
No. 29738 . . . . .	{ Original . . . . .	10·67
	{ Duplicate . . . . .	11·05
No. 32613.....	{ Original.....	11·81
	{ Duplicate.....	2·34
No. 34604 . . . . .	{ Original . . . . .	24·69
	{ Duplicate . . . . .	25·34
No. 34313.....	{ Original . . . . .	25·01
	{ Duplicate . . . . .	24·69

\* A specially collected sample, No. 32975, has been added since the above was written.  
‡ The duplicate bottle of this sample contains only 2·34 per cent proof spirit.  
\* Owing to the fact that the inspector purchases three bottles of each sample, which bottles are supposed to contain the same identical grape juice, although they may actually represent the product as manufactured at different times, it has been considered proper to determine the alcohol in the duplicate sample, as well as in that intended for the analyst. The results of both determinations, in the instances where such have been made, appear in the following table :—



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Of the remaining 63 samples, the following classification may be made, as regards their content of alcohol.

Alcohol.	Samples.
None or trace so small as to be negligible. . . . .	51
Below 1 per cent proof spirit. . . . .	1
Between 1 and 2 per cent proof spirit. . . . .	2
" 2 and 3 " " . . . . .	1
" 3 and 4 " " . . . . .	5
" 4 and 5 " " . . . . .	2
Above 5 per cent proof spirit. . . . .	1
Total . . . . .	63

Eleven of these 63 samples contain salicylic acid as a preservative. It is interesting and important to note that, with two exceptions, those samples which contain salicylic acid contain very considerable percentages of alcohol; showing that the preservative has been added to the already fermenting juice, to stay further fermentation, and not to the fresh juice, in order to prevent fermentation from beginning. The following makes this plain:—

## SAMPLES CONTAINING SALICYLIC ACID.

	Percent proof spirit.
No. 33524 contains. . . . .	4.12
No. 34402 " . . . . .	0.00
No. 32611 " . . . . .	2.09
No. 35274 " . . . . .	3.03
No. 35141 " . . . . .	3.30
No. 30978 " . . . . .	3.03
No. 34588 " . . . . .	3.30
No. 33192 " . . . . .	4.89
No. 34312 " . . . . .	5.74
No. A " . . . . .	trace.
No. B " . . . . .	0.70
No. 29738 " . . . . .	10.67
No. 32613 " . . . . .	18.81
No. 34313 " . . . . .	25.01

Ten samples of grape juice, and one of wine, contain coal-tar dyes, as follows:—

No. 33524	Peurita, N. C. Polson.
No. 33194	" "
No. 34312	" "
No. 32611	Turner & Co.
No. 35274	"
No. 35141	"
No. 30978	"
No. 30952	Sterling, T. Lytle & Co.
No. A	Toronto Wine Co.
No. B	" "
No. 29738	Pelee Island Co.

It is worthy of note that most of the samples which contain dyes, contain a preservative also. Thus, of eleven samples (one being a wine) which are dyed, all but one (No. 30952) contain salicylic acid; while of fourteen samples which contain this preservative, all but four are dyed. (34402, 34588, 32613, 34313). Of these 32613 and 34313 must be regarded as fermented wines.



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Under the heading *Extract*, are given two numbers: the first being the solids in solution derived from the specific gravity of the dealcoholized grape juice, as interpreted by Table II, published in Bulletin No. 59 of the Bureau of Chemistry, Washington. The second number, which is usually about 3 per cent less, is obtained by direct weighing of the wine solids, dried at 100°C. The table mentioned has evidently been prepared by drying the wine solids less completely than they are dried on asbestos, at 100°C.; and there can be little doubt that some change in the character of the solids results from employment of the higher temperature. Either set of numbers may be used in the interpretation, but the two methods cannot safely be used interchangeably. The residue is essentially sugars, and it will be noted that in this unfermented juice the added cane sugar is quite as completely inverted as in a fermented wine. Cane sugar as such is present in traces only. The amount of residual solids ranges (in the unfermented grape juice) from 11 per cent (No. 32612) to 33.60 per cent (No. 34403).

It is evident that this is due to the varying amounts of sugar added to the must by different makers; and a certain uniformity among samples of the same brand is observable. This is shown by the following examples:—

Brands.	No.	Dry Solids.	Proof Spirit.
St. David's Wine Co.—			
Imperial Brand. ....	32612	11.00	1.16
" .....	35344	11.05	0.00
National Drug & Chemical Co.—			
National Brand.....	34403	33.60	0.00
" .....	35272	31.86	0.00
N. C. Polson—			
Peurita Brand .....	33524	27.85	4.12
" .....	33192	25.63	4.89
" .....	34312	25.15	5.74
Turner & Co., Toronto—			
Brand. ....	32611	27.00	2.09
" .....	35274	26.93	3.03
" .....	35141	29.10	3.30
" .....	30978	28.06	3.03
Welch's Grape Juice Westfield, N.Y.—			
Brand .....	33521	18.36	0.00
" .....	33523	15.82	0.00
" .....	31307	16.67	0.00
" .....	31309	16.16	0.00
" .....	29741	16.51	0.00
" .....	29742	16.70	0.00
" .....	34402	19.90	0.00
" .....	34404	13.78	0.00
" .....	165		
" .....	32615	16.36	0.00
" .....	22659	14.86	0.00
" .....	22660	15.44	0.00
" .....	22662	16.08	0.00
" .....	35271	15.21	0.00
" .....	33193	16.30	0.00
" .....	33196	16.47	0.00
" .....	35341	16.37	0.00
" .....	35343	16.59	0.00
" .....	35345	14.57	0.00
" .....	34310	16.20	0.00
" .....	34970	22.04	0.00
" .....	34976	16.80	1.28



## SESSIONAL PAPER No. 14

Brands.	No.	Dry Solids.	Proof Spirit.
<b>Ontario Grape Juice Co., Niagara Falls—</b>			
Ontario Grape Juice.....	31310	13.57	0.00
Noyes Ontario Grape Juice.....	31306	17.09	0.00
".....	32614	17.81	0.60
".....	34406	16.53	0.00
".....	34950	17.25	0.00
".....	33194	14.32	0.00
".....	35142	14.59	0.00
".....	35273	17.02	0.01
".....	22158	14.71	0.00
".....	167	14.88	0.00
<b>J. J. McLaughlin, Toronto..</b>	31308	20.84	0.00
".....	29739	19.14	0.00
".....	35139	20.04	0.00
".....	30068	19.80	0.00
".....	34311	20.55	0.00
<b>Imperial Brand, Hazel Bros., Welland</b>	33522	17.55	0.00
".....	22461	16.58	0.00
".....	33143	18.22	0.00
".....	33195	17.00	0.00
<b>The Seaside Amusement, Fredricton</b>	34344	17.80	0.00
".....	34952	19.25	0.00
".....	34964	18.00	0.00
<b>Duffy's American Fruit Products Co., Rochester.....</b>	34406	15.37	0.00
".....	167		
<b>Toronto Wine Co..</b>	A	12.48	trace
".....	B	39.15	0.70
<b>Ontario Grape Growing &amp; Wine Mfg. Co., St. Catharines....</b>	35140	25.34	0.00
".....	35270	25.61	0.00
"..... (Fermented wine)	34113	14.80	25.01
<b>Beach &amp; Clairidge Co., Boston.....</b>	29740	21.21	0.00
<b>C. E. Scarff, Montreal. (This is a fermented wine).....</b>	32613	7.08	18.81
<b>Sterling Brand, T. A. Lytle &amp; Co.....</b>	30052	29.11	3.16
<b>Niagara Falls Wine Co. (This is a fermented wine).....</b>	34004	12.00	24.60
<b>J. des Robinet, Sandwich.....</b>	34588	23.98	3.30
<b>Vineland Grape Juice Co., Vineland, N.J.....</b>	33525	17.68	0.00
<b>Augusta Gely, Taragona, Spain. (This is a fermented wine).</b>	35342	3.28	31.22
<b>Pelee Island Co. (This is practically a fermented wine)..</b>	29738	28.70	10.67

The amount of extractive in our commercial unfermented grape juice varies, as we have seen, from about 11 to 33 per cent. König (Chemie der Menschlichen Nahr. and Genussmittel, Band I, S. 1342) quotes 13.5 to 18.9 per cent of extractive for French and German grape juice. Allen (Com. Org. Analysis, Vol. I. p. 77) gives the dry residue for wine must as from 14 to 27 per cent. J. Carter Bell (quoted by Allen) found 22.90 and 20.28 for black, English and white Almeira grapes. These figures, representing grape juice of European production, may not be available as enabling us to interpret results with American grape juices. Unfortunately I have no authoritative records for American grape juice; but it is highly probable that wherever the dry solids much exceed 15 per cent, sugar has been added to the grape juice. In such cases it is clear that the article should be labelled *Sugared Grape Juice*, as a simple statement of fact.



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The ash of grape juice, as here illustrated, varies between wide limits, from 0·14 to 0·40 gramme per 100 cubic centimetres. It is very doubtful whether these extremes represent genuine juice. The large majority of the samples analysed yield about 0·20 to 0·30 of ash; and the normal percentage lies between these limits. Still more instructive is the alkalinity of the ash. Fruit juices, and especially the juice of the grape, contain potassium salts of organic acids, which burn to carbonates. The alkalinity of a true grape juice ash, is therefore high, and, so far as can be judged by the tabulated results, corresponds to about 25 cubic centimetres, deci-normal, per cent.

The natural inference in cases like Nos. 33524, 33192 and 34312, which give an alkalinity of 0·4 N-10 per cent is that we are not dealing with true fruit juice: or, if so, that it has undergone some quite unusual treatment. The same remark holds of the series of samples numbered 32611, 35274, 35141, 30978; also of No. 30952; and of the pair of samples 32612 and 35344. The same is true of samples A and B.

The acidity of ordinary grape juice appears to be about 1 to 1·5 per cent (as tartaric acid) and the volatile acids are trifling in amount. When the acidity is decidedly less than 1 per cent it is probable that we are dealing with a factitious juice. Foreign (European) grape juices may have a lower acidity, as illustrated by Nos. 34314, 34952 and 34964,

Finally, it is to be noted that our inspectors obtain, in the case of each sample, three bottles of the grape juice; and these are known by the same number, and are assumed to represent the same article. They should give identical results on analysis, and if the just stated assumption were correct, they would do so. As a matter of fact, the contents of bottles bearing the same number sometimes prove to be very unlike. The results of analysis published herewith were obtained by work done upon the bottle especially intended for the analyst. A second bottle remains, under seal, in the hands of the vendor, while the third bottle is kept in this office, under seal, in the event of its being required under section 15 of the Adulteration Act. In a few cases, this third bottle has been submitted to analysis, and the following instances show how great differences may exist between articles of so-called unfermented grape juice, bearing the same number, and apparently having the same manufacturer. In explanation of the necessity of collecting three bottles, instead of dividing the contents of one bottle into three parts, I may say that where grape juice is preserved by sterilization, and without antiseptics, the fact of opening the bottle causes the certain alteration and destruction of the sample by fermentation. It is by reason of such treatment that samples 165 and 166 were received in unfit condition for analysis.



## SESSIONAL PAPER No. 14

Number.	Proof Spirit. Per cent.	Extract.
32612 .....	18.81	8.65
Duplicate .....	2.34	24.93
29738 .....	10.67	32.60
Duplicate .....	11.05	33.57
34004 .....	24.60	13.39
Duplicate .....	25.34	14.34
34313 .....	25.01	18.15
Duplicate .....	24.69	17.92
30952 .....	3.16	31.51
Duplicate .....	3.71	31.95
33192 .....	4.89	27.79
Duplicate .....	5.01	27.63
33524 .....	4.12	30.18
Duplicate .....	4.12	30.85
34312 .....	5.74	28.17
Duplicate .....	5.74	28.69
35141 .....	3.30	31.85
Duplicate .....	3.30	30.97
35274 .....	3.03	29.57
Duplicate .....	3.99	30.92

Fifteen samples of unfermented grape juice were examined in this laboratory in 1902, and the results are published in Bulletin No. 82. Three of these contained above 2 per cent of proof spirit; and five preserved with salicylic acid. The addition of salicylic acid was held by the late chief analyst to be a violation of section 17 of the Adulteration Act. (4 c. of R. S. 1906).

The results of analysis now published will serve as material for the defining of unfermented grape juice; but to this end it is necessary that a considerable amount of work be done upon grape juice of known purity, and of Canadian production. The main points requiring elucidation are the following: (1) What is its normal content of dry solid matters? (2) of sugars? (3) What is the normal ash content? (4) Normal alkalinity of the ash? (5) What is the normal acidity of Canadian grape juice?

It is hoped that these points may be cleared up during the next fruit season.

I beg to recommend the publication of this report as Bulletin No. 166.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF NOVA SCOTIA—

1908.							
Aug.	5	Unfermented Grape Juice.	33521 H. Wilson, Windsor, N.S.	1½ pts.	75	Welch Grape Juice Co., Westfield, NY	Labelled Pure, from choice, Concord grapes
"	6	"	33522 Methodist Book Room, Halifax.	3 "	90	Hager Bros., Wel-land, Ont.	Labelled Imper-ial.
"	7	"	33523 C. A. Barnstead, Halifax.	1½ "	75	Welch Grape Juice Co, Westfield, N.Y.	Labelled Pure, from choice Concord grapes
"	8	Peurita-Unfermented Wine.	33524 A. A. Thompson, Halifax.	3 quts.	1 05	N. C. Polson, Kings-ton, Ont.	Guaranteed free from alcohol, Labelled 'Peu-rita. Unfer-mented Wine. The word "Grape" on seperate label.
"	8	Unfermented Grape Juice.	32525 Jas. D. Walsh, Hali-fax.	3 pts.	1 20	Vineland Grape Juice Co., New Jersey.	

DISTRICT OF PRINCE EDWARD ISLAND—

July	30	Unfermented Grape Juice.	31306 Johnson & Johnson, Charlottetown.	3 pts.	1 20	Ontario Grape Juice Co., Niagara Falls.	Labelled Pure Unfermented Grape Juice without any ad-ulterant or pre-servative what-ever, from selected grapes.
"	17	"	31307 J. G. Jameson, Char-lottetown.	3	1 25	Welch Grape Juice Co., Westfield, N.Y	From choice grapes, pure and unadulter-ated.
Aug.	5	"	31308 E. Keir, Kensington.	3	1 20	J. J. McLaughlin, Toronto.	From choice Canadian Con-cords, pressed and sterilized in laboratory.
"	4	"	31309 J. F. McNeil, Sum-merside.	3	1 05	Welch Grape Juice Co., Westfield, N.Y	From choice Con-cord grapes, pure and unad-ulterated.
"	5	"	31310 G. E. Hughes, Char-lottetown.	3	1 05	Ontario Grape Juice Co., Niagara Falls,	



SESSIONAL PAPER No. 14  
UNFERMENTED GRAPE JUICE.

RESULTS OF ANALYSIS.														
Spec. Grav.		Alcohol by Volume of Proof spirit.	Extract.		Ash, Gms. per 100 cc.	Alkalinity of water solution, ash cc. 10 Acid per 100.	Acidity.			Polarization.		Sucrose by Clerget's Formula.	Reducing sugar, Gms. per 100 cc.	Remarks and Opinion of the Chief Analyst.
Of Juice.	Of Distillate.		From Sp. Gr. of residue, Gms. per 100 cc.	18 hrs. drying in water oven, Gms. per 100 cc.			Total.	Fixed Gms. per 100 cc.	Volatile.	Direct.	Invert.			

R. J. WAUGH, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
1.0806	0.9999	None.	21.43	18.30	0.26		27.0	1.35	1.35	0.00	-27.0	-27.6	0.11	16.53 Contains no preservatives, dyes, &c.
1.0732	1.0000	"	19.60	17.25	0.23		22.2	0.97	0.00	0.03	-20.0	-23.6	0.67	15.09
1.0685	0.9998	"	18.34	15.82	0.26		26.0	1.44	1.41	0.03	-24.4	-25.2	0.15	14.04
1.1108	0.9967	4.12	30.18	27.85	0.40		0.4	0.58	0.51	0.06	-28.8	-30.8	0.37	27.31 Contains salicylic acid, dyed pink, aniline dye.
	0.9967	4.12	30.85											
1.0760	1.0000	None.	20.36	17.68	0.23		22.0	0.90	0.85	0.04	-20.8	-23.6	0.53	16.26 None.

THEO. MOORE, INSPECTOR.

1.0746	1.0000	None.	19.94	17.09	0.28		20.0	1.05	1.03	0.02	-24.4	-25.6	0.23	16.08 None.
1.0375	0.9997	"	19.64	16.67	0.28		27.6	1.44	1.41	0.03	-22.4	-22.8	0.08	15.37 "
1.0908	0.9999	"	24.24	20.84	0.30		18.8	1.66	1.59	0.06	-24.8	-26.4	0.30	18.98 "
1.0727	0.9994	"	19.45	16.16	0.25		22.6	1.41	1.36	0.04	-23.2	-23.6	0.08	15.25 "
1.0599	0.9998	"	16.07	13.57	0.28		21.8	1.05	1.04	0.01	-20.8	-21.5	0.13	12.23 "



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.
				Quantity.	Cost.		

DISTRICT OF NEW BRUNSWICK—

1908.							
July 16	Unfermented Grape Juice.	29738	Foster & Co., 58 Union St. John. N.B.	3 bot.	1 20	Pelee Island Wine and Vineyard Co., Ltd., Brantford and Pelee Island, Ont.	Labelled Unfermented Grape Juice. Bottled by vendor from bulk.
" 17	"	29739	Nat. Drug and Chem. Co., Mill St., St. John, N.B.	2 "	90	J. J. McLaughlin, Aoronto.	Labelled McLaughlin's Grape Juice, from choicest Canadian Concords, pressed and sterilized in laboratory.
" 22	"	29740	The Can. Drug Co., Ltd., 70-72 Prince William St., St. John. N.B.	3 "	75	Beach & Clarridge Co., Boston, Mass.	Labelled Grape Juice, sold as received. Would not guarantee purity and quality.
Aug. 5	"	29741	Fairweather Bros., Moncton, N.B.	3 "	1 20	Nat. Drug. Co., St. John, N.B.	From choicest Concord grapes, pure and unfermented, No. 140.
" 15	"	29742	Hunt & MacDonald, 597 Queen St., Fredericton, N.B.	2 "	1 05	Welch Grape Juice Co., Westfield, NY.	Welch's Grape Juice.

DISTRICT OF QUEBEC—

July 28	Unfermented Grape Juice	34402	F. E. Garneau & Frère, 336 Rue St. Jean, Quebec.	3 bot.	90	Welch's Vineland, N.Y.	.....
" 28	"	34403	J. Savard, 35 Rue St. Jean, Quebec.	3 "	90	Nat. Drug. and Chem. Co., Canada.	National.....
" 28	"	34404	Eudone Patry, 57 Rue St. Jean, Quebec.	3 "	90	" "	Welch's.....
" 28	"	34405	H. Beutey, 21 Rue de la Fabrique, Quebec,	3 "	54	Laporte & Martin, Montreal.	Duff's Grape Juice, Amor. Fruit Co.
" 28	"	34406	" "	3 "	90	Leeming Miles, Montreal.	Noye's Ont. Grape Juice, mfd. by Ont. Grape Juice Co.



SESSIONAL PAPER No. 14

UNFERMENTED GRAPE JUICE—Continued.

RESULTS OF ANALYSIS.													
Spec. Grav.		Alcohol by Volume of Proof spirit.	Extract.		Ash, Gms. per 100 cc.	Alkalinity of water solution, a h.c.c.*	Acidity.			Polarization.		Reducing sugar, Gms. per 100 cc.	Remarks and Opinion of the Chief Analyst.
Of Juice.	Of Distillate.		From Sp. Gr. of residue, Gms. per 100 cc.	18 hrs. drying in water oven, Gms. per 100 cc.			Total.	Fixed Gms. per 100 cc.	Volatile.	Direct.	Invert.		

J. C. FERGUSON, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
1.1154	0.9916	10.67	32.60	28.70	0.14		14.6	0.71	0.54	0.13	-12.8	-15.2	0.45	28.94	Contains salicylic acid, dyed with pink aniline dye.
	0.9913	11.08	33.57												
1.0867	0.9909	None.	23.28	19.14	0.21		19.2	1.50	1.39	0.08	-24.8	-25.6	0.15	18.05	None.
1.0945	0.9998	"	25.16	21.21	0.22		18.6	1.04	0.98	0.05	-32.4	-33.4	0.19	21.41	
1.0738	0.9995		19.74	16.51	0.25		23.8	0.88	0.85	0.03	-26.4	-27.2	0.15	15.9	
1.0720	0.9996	"	19.24	16.70	0.31		28.0	1.42	1.42	0.00	-24.8	-24.8	None.	14.83	

E. BELAND, INSPECTOR.

1.0913	0.9998	None.	24.34	19.90	0.20		22.2	0.91	0.89	0.02	-28.8	-29.9	0.20	20.54	Contains salicylic acid.
1.1528	0.9999	"	40.04	33.60	0.23		20.0	1.32	1.26	0.05	-42.4	-43.1	0.13	35.97	None.
1.0664	0.9996	"	17.73	13.78	0.26		24.6	1.36	1.33	0.03	-23.6	-24.0	0.08	13.94	
1.0716	0.9997	"	19.16	15.37	0.31		25.4	1.08	1.07	0.07	-23.2	-23.6	0.08	15.24	
1.0778	0.9998	"	20.95	16.53	0.26		21.4	1.27	1.20	0.06	-23.6	-23.6	None.	16.69	"

\* Duplicate sample.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer of Furnisher, as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
DISTRICT OF ST. HYACINTHE—							
1908. Aug. 6	Unfermented Grape Juice.	165	G. A. Colère, Lac Megantic.	2 bot.	1 50	The Welch Grape Juice Co., Westfield, N.Y.	Bottles were opened to allow me to give part to vendor.
" 14	" ...	166	Thos. Hebert, St. Hyacinthe.	1 "	75	American Fruit Product Co., Rochester, N.Y.	.....
" 21	" ...	167	L.S.Browne, Granby	2 "	60	Ontario Grape Juice Co., Niagara Falls, Canada.	.....
DISTRICT OF MONTREAL—							
July 17	Unfermented Grape Juice.	32611	R. Turner, 601 Wellington St., Montreal.	3 bot.	75	Turner & Co., Toronto.	Labelled 'Turner & Co's Unfermented Grape Wine.'
" 18	" ...	32612	Gravel Frères, 382 St. Catherine St. W., Montreal.	3 "	1 20	St. David's Wine Co.	Imperial Brand..
" 18	" ...	32613	Chas. E. Scarff, 358 St. Catherine St., W., Montreal.	3 "	90	Vendors	.....
" 18	" ...	32614	T. R. Goulden, 481 Bleury St., Montreal.	3 "	1 05	Ontario Grape Juice Co.	.....
" 18	" ...	32615	Henri Lalonde, 180 St. Catherine St. E., Montreal.	3 "	1 05	The Welch Grape Juice Co.	.....
Sept. 17	Grape Juice....	Spec'l 32975	C. W. Coates, 298 St. Catherine St. W. Montreal.	3 "	90	G. A. Drummond, Roebuck, Ont.	'Fruit of the Vine.'
DISTRICT OF OTTAWA—							
July 14	Unfermented Grape Juice.	22658	W. H. Raney, Prescott, Ont.	3 bot.	65	Ontario Grape Juice Co., Niagara Falls, Ont.	Labelled Pure Unfermented Grape Juice, without the addition of any adulterant or preservative whatever.



SESSIONAL PAPER No. 14

UNFERMENTED GRAPE JUICE—Continued.

RESULTS OF ANALYSIS.															
Spec. Grav.		Alcohol by Volume of Proof spirit.	Extract.		Ash, Gms. per 100 cc.	Alkalinity of water solution, ash cc <sup>s</sup> . Acid per 100.	Acidity.			Polarization.		Sucrose by Clerget's Formula.	Reducing sugar, Gms. per 100 cc.	Remarks and Opinion of the Chief Analyst.	
Of Juice.	Of Distillate.		From Sp. Gr. of residue, Gms. per 100 cc.	18 hrs. drying in water oven, Gms. per 100 cc.			Total.	Fixed Gms. per 100 cc.	Volatiles.	Direct.	Invert.				
p. c.	p. c.		p. c.	p. c.			p. c.	p. c.	p. c.	p. c.	p. c.				p. c.
J. C. ROULEAU, INSPECTOR.															
							1000	1000	1000					Received in faulty condition; unfit for analysis. Bottles were opened by collector, and contents divided, but not sterilized.	
1 0665	1 0000	None.	17 84	14 88	0 28		23 0	1 18	1 18	0 00	—19 6	—19 6	None.	13 76	Contains no preservatives, dyes, &c.
1 1154	0 9999	None.	30 10		0 20		24 2	1 00	1 00	0 00	—13 6	—26 8	2 56	21 95	No preservatives or dyes.
J. J. COSTIGAN, INSPECTOR.															
1 1102	0 9982	2 09	29 61	27 00	0 21		0 0	0 56	0 51	0 04	—28 8	—28 8	None.	26 78	Contains salicylic acid, strongly dyed, light red aniline dye.
1 0480	0 9990	1 16	12 74	11 00	0 14		3 4	0 53	0 53	0 00	—10 0	—12 8	0 45	10 33	Contains no preservatives, dyes, &c.
1 0192	0 9860	18 81	8 65	7 08	0 23		13 2	1 35	1 22	0 11	—20 4	—20 4	None.	5 26	Contains salicylic acid; not well stoppered; heavy sediment.
1 0920	0 9980	2 34	24 93												
1 0788	0 9998	None.	20 95	17 81	0 24		21 0	1 14	1 11	0 03	—23 6	—24 0	0 08	17 14	None.
1 0730	0 9994		19 55	16 36	0 27		19 8	0 88	0 76	0 10	—26 0	—26 8	0 15	15 74	
J. A. RICKEY, INSPECTOR.															
1 0664	0 9999	None.	17 78	14 71	0 25		21 4	1 17	1 11	0 05	—20 8	—21 6	0 15	13 80	None.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF OTTAWA—

1908.							
July 22	Unfermented Grape Juice.	22659	S. J. Stevenson, Ottawa, Ont.	3 bot..	1 05	The Welch Grape Juice Co., West-field, N.Y.	Labelled Welch's Grape Juice, from choicest Concord grapes. Pure and unfermented.
" 22	"	22660	J. S. Brown, Ottawa, Ont.	3 "	1 10	" " "	" " "
" 23	"	22661	D. H. McIntosh, M. D., Carleton Place.	3 "	75	Hager Bros., Wel-land, Ont.	Labelled Imperial Unfermented Juice of the Grape.
" 25	"	22662	Dr. Lyon, Shawville, Que.	3 "	1 20	The Welch Grape Juice Co., West-field, N.Y.	Labelled Welch's Grape Juice from choicest Concord grapes. Pure and unfermented.

DISTRICT OF KINGSTON—

July 20	Unfermented Grape Juice.	35270	G. W. Mahood, Kingston.	3 bot..	75	Ontario Grape Grow-ing and Wine Mfg. Co., St. Catherines	.....
" 21	"	35271	H. Wade, Kingston.	3 "	1 00	The Welch Grape Juice Co., West-field, N.Y.	.....
" 21	"	35272	W.W.Gibson, Kings-ton.	3 "	90	Nat. Drug and Chem. Co.	National.....
" 22	"	35273	D. M. Waters, Belle-ville.	3 "	75	Ontario Grape Juice Co., Niagara Falls, Ont.	.....
" 22	"	35274	R. Templeton, Belle-ville.	3 "	1 00	Turner & Co., Tor-onto.	.....

DISTRICT OF TORONTO—

July 29	Unfermented Grape Juice.	35139	J. J. McLaughlin, Ltd., Sherbourne St., Toronto.	3 bot..	60	Vendors ....	Grape juice from choicest Can-adian Concords. Pressed and sterilized pure and unfer-mented with granulated sugar added.
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SESSIONAL PAPER No. 14  
UNFERMENTED GRAPE JUICE—Continued

RESULTS OF ANALYSIS.											
Spec. Grav.		Alcohol by Volume of Proof spirit.	Extract.			Acidity.	Polarization.		Sugar by Chemical Formula.	Reducing sugar, Gms. per 100 cc.	Remarks and Opinion of the Chief Analyst.
of Juice.	of Distillate.		Unfermented, Gms. per 100 cc.	Losses drying in water oven, Gms. per 100 cc.	Ash, Gms. per 100 cc.		Total.	Direct.			
			Unfermented, Gms. per 100 cc.	Losses drying in water oven, Gms. per 100 cc.	Ash, Gms. per 100 cc.	Alkalinity of water solution, ash cc. Acid per 100 cc.	Fixed Gms. per 100 cc.	Volatiles.			

J. A. RICKEY, INSPECTOR—Continued.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
1.0666	0.9996	None.	17.80	14.86	0.24	21.0	1.41	1.36	0.07	-21.2	-22.0	0.15	13.86	None.
1.0693	0.9995		18.50	15.44	0.30	28.4	1.47	1.38	0.07	-25.2	-25.2	None.	14.48	
1.0740	0.9995		19.76	16.58	0.25	14.2	0.99	0.96	0.03	-20.0	-21.6	0.30	16.38	
1.0744	0.9998	"	19.94	16.08	0.33	32.0	1.41	1.42	0.02	-20.8	-22.0	0.23	15.62	

J. HOGAN, INSPECTOR.

1.1141	0.9998	None.	30.22	25.51	0.23	23.2	0.88	0.82	0.05	-31.2	-32.0	0.15	26.38	None.
1.0688	0.9991		18.42	15.21	0.24	22.6	1.38	1.37	0.01	-24.8	-25.9	0.20	14.40	"
1.1468	0.9998	"	38.45	31.86	0.21	22.4	0.87	0.79	0.07	-43.6	-46.0	0.45	34.86	
1.0820	0.9996	"	21.83	17.02	0.28	24.4	1.24	1.22	0.02	-25.6	-26.4	0.15	17.31	
1.1087	0.9975 0.9968	3.03 3.99	29.57 30.92 *	26.93	0.18	0.4	0.58	0.58	0.00	-24.8	-27.6	0.52	27.21	Contains salicylic acid, strongly dyed bright red aniline dye.

H. J. DAGER, INSPECTOR.

1.0868	0.9999	None.	23.18	20.04	0.25	20.4	1.57	1.56	0.01	-22.6	-24.4	0.34	18.28	None.
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\* Duplicate sample.



9-10 EDWARD VII., A. 1910

BULLETIN No. 166—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF TORONTO—

1908.							
July 31	Unfermented Grape Juice.	35140	The Ont. Grape Growing & Wine Mfg. Co., St. Catharines.	3 bot.	50	Vendors . . . . .	Not labelled. Vendor said that on account of grapes being frozen, sugar was added with juice to sweeten and improve.
Aug. 10	"	35141	Turner & Co., Jarvis St., Toronto.	3 "	75	" . . . . .	Labelled Turner's Unfermented Grape Juice. Mfd. by Turner & Co.
" 11	"	35142	W. H. Snyder, Niagara Falls.	3 "	75	Vendor . . . . .	Pure unfermented grape juice, made by Ont. Grape Juice Co. from selected grapes. Unadulterated and no preservative added. Sold as pure grape juice.
" 11	"	35143	Hager Bros., Welland.	3 "	75	Vendors . . . . .	Labelled Imperial juice of the grape unfermented. No preservatives used. Preserved by entire exclusion of air.

DISTRICT OF LONDON—

July 21	Unfermented Grape Juice.	30952	Walsh Bros., Stratford.	3 bot.	75	T. A. Littell & Co., Toronto.	Sterling Brand. Purchased as unfermented grape juice.
" 29	Grape Juice . . . .	30965	William Grewer, Brussels.	3 "	75	J. J. McLaughlin, Toronto.	Labelled 'Unfermented Grape Wine.' The word 'grape' being pasted on the label.
Aug. 1	"	30978	Cardino Bros., Seaford.	3 "	75	Turner & Co., Toronto.	



## SESSIONAL PAPER No. 14

UNFERMENTED GRAPE JUICE—*Continued.*

## RESULTS OF ANALYSIS.

Of Juice	Spec. Grav.	Of Distillate.	Alcohol by Volume of Proof spirit.	Extract.		Ash, Grs. per 100 cc.	Alkalinity of water addition, ash eq. Acid per 100.	Acidity.			Polarization.		Sucrose by Clerget's Formula.	Reducing sugar, Grs. per 100 cc.	Remarks and Opinion of the Chief Analyst.
				From Sp. Gr. of residue, Grs. per 100 cc.	As hrs. drying in water oven, Grs. per 100 cc.			Total.	Fixed Grs. per 100 cc.	Volatile.	Direct.	Invert.			

H. J. DAGER, INSPECTOR—*Concluded.*

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
1.1157	0.9997	None	30.62	25.34	0.18	21.2	0.87	0.76	0.09	36.8	-39.8	0.52	27.41	None
1.1183	0.9973	3.30	31.35	29.10	0.17	0.4	0.63	0.57	0.05	-34.8	-34.3	None	29.09	Contains salicylic acid and— (strong reaction) strongly dyed scarlet, aniline dye.
	0.9973	3.30	30.97											
1.0647	1.0000	None	17.31	14.59	0.24	21.6	0.75	0.73	0.02	-21.6	-24.4	0.15	13.83	Contains no preservatives, dyes, etc.
1.0771	0.9996	None	20.48	18.22	0.30	21.6	0.90	0.90	0.00	-19.6	-22.0	0.45	16.55	

## T. KIDD, INSPECTOR.

1.1160	0.9974	3.16	31.51	29.11	0.25	0.4	0.75	0.69	0.05	-30.8	-31.6	0.15	28.18	No preservatives. Dyed
	0.9970	3.71	31.95											
1.0872	0.9997	None	23.26	19.80	0.19	19.8	1.58	0.56	0.02	-24.0	-24.8	0.52	18.48	
1.1168	0.9975	3.03	30.92	28.06	0.16	0.4	0.69	0.54	0.12	-31.2	-34.0	0.52	28.91	Contains salicylic and— (strong reaction) strongly dyed bright pink, aniline dye.

\* Duplicate sample  
14—17



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Addresses of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF WINDSOR—

1908.							
Aug. 11	Unfermented Grape Juice.	34588	E. B. Smith, London	3 bot.	75	Jules Robinet, Sandwich, Ont.	
" 13	"	34604	Sharpe Liquor Store, St. Mary's.	3 "	60	Niagara Falls Wine Co.	Labelled 'Pure Canadian Grape Wine.'

DISTRICT OF MANITOBA—

July 29	Unfermented Grape Juice.	33192	D. E. Clement, Brandon.	3 bot.	2 25	N. C. Polson & Co., Kingston, Ont.	Peurita unfermented wine. Guaranteed free from alcohol or spirits.
" 29	"	33193	Scott's Drug Store, Brandon.	3 "	2 25	The Welsh Grape Juice Co., Westfield, N. Y.	From choicest grapes. Pure and unfermented.
Aug. 12	"	33194	The Gordon Mitchell Drug Co., Winnipeg.	3 "	1 50	Ontario Grape Juice Co., Niagara Falls, Ont.	Noye's Ontario unfermented grape juice.
" 12	"	33195	"	3 "	1 95	Hager Bros., Welland, Ont.	Imperial unfermented juice of the grape.
" 13	"	33196	W. F. C. Brathwaite, Winnipeg.	3 "	1 05	The Welsh Grape Juice Co., Westfield, N. Y.	From choicest grapes. Pure and unfermented.

DISTRICT OF CALGARY—

Aug. 14	Unfermented Grape Juice.	35341	Wood & Green, Calgary.	3 pts.	1 35	Welch Grape Juice Co., Westfield, N. Y.	
" 14	"	35342	Great West Liquor Co., Calgary.	3 qts.	1 50	Augusta Gely, wine grower, Taragona, Spain.	Labelled 'Gely's non-alcoholic wine.'
" 14	"	35343	Owen H. Bot, Calgary.	3 pts.	1 35	Welch Grape Juice Co., Westfield, N. Y.	
" 14	"	35344	Calgary Wine & Spirit Co., Calgary.	3 qts.	2 50	J. W. Lee & Co., Toronto.	Labelled 'St. David Wine Growers Co.'
" 14	"	35345	Bole Drug Co., Calgary.	3 pts.	1 00	Welch Grape Juice Co., Westfield, N. Y.	



SESSIONAL PAPER No. 14

UNFERMENTED GRAPE JUICE—*Continued.*

RESULTS OF ANALYSIS.																Remarks and opinion of the Chief Analyst.
Spec. Grav.	Of Juice.	Of Distillate.	Alcohol by Volume of Proof spirit.	Extract.		Ash, Gms. per 100 cc.	Alkalinity of water, solution, ash, cc <sup>N 10</sup> Acid per 100.	Acidity.			Polarization.		Sucrose by Clerget's Formula.	Reducing sugar, Gms. per 100 cc		
				From Sp. Gr. of residue, Gms. per 100 cc.	Is has, drying in water oven, Gms. per 100 cc.			Total.	Fixed Gms. per 100 cc.	Volatile.	Direct.	Invert.				
JNO. TALBOT, INSPECTOR.																
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
1.0968	0.9973	3.30	26.11	23.98	0.22		14.21	0.65	0.63	0.34	-23.2	-26.8	0.67	23.52	Contains sali- cyclic acid— (very marked reaction).	
1.0334	0.9823	24.69	13.39	12.60	0.22		9.60	0.60	0.45	0.12	-20.8	-21.6	0.15	10.70	None (ferment- ed wine).	
	0.9819	25.34	14.34													
A. C. LARIVIERE, INSPECTOR.																
1.1003	0.9961	4.89	27.79	25.63	0.16		0.40	0.43	0.39	0.03	-28.8	-31.6	0.52	24.73	Contains sali- cyclic acid, dyed pink. Aniline dye.	
	0.9960	5.01	27.63													
1.0704	0.9997	None	18.83	16.30	0.25		23.60	0.90	0.87	0.03	-24.8	-25.1	0.06	15.18	Contains no preservatives, dyes, &c.	
1.0638	1.0000	"	17.06	14.32	0.26		20.81	1.08	1.05	0.03	-19.2	-19.8	0.11	13.11		
1.0727	0.9998		19.43	17.00	0.28		24.41	1.07	1.02	0.04	-19.6	-20.2	0.11	15.60	"	
1.0704	0.9994	"	18.81	16.47	0.26		22.01	1.01	0.88	0.11	-24.0	-25.2	0.23	16.24		
R. W. FLETCHER, INSPECTOR.																
1.0717	0.9995	None	19.19	16.37	0.28		25.61	1.47	1.42	0.04	-25.6	-25.6	None	14.85	Contains no preservatives, dyes, &c.	
0.9954	0.9784	31.22	4.30	3.28	0.20		4.40	0.61	0.45	0.15	-8.80	-9.40	0.11	2.08	None (ferment- ed wine).	
1.0728	0.9992	None	19.45	16.59	0.30		22.81	1.41	1.37	0.04	-25.2	-26.0	0.15	15.20	"	
1.0480	0.9993	"	12.78	11.05	0.16		1.60	0.55	0.48	0.06	-8.00	-8.40	0.08	10.18		
1.0655	0.9993	"	17.63	14.57	0.26		22.01	1.42	1.41	0.01	-23.6	-24.0	0.08	13.48	"	

\* Duplicate sample.

14-171



Date of Collection.	Nature. of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vender.	Inspector's Report.
				Quantity.	Cents.		
DISTRICT OF VANCOUVER--							
1908.							
July 30	Unfermented Grape Juice.	34310	Lapatouré & McRae, Vancouver, B.C.	3 pts.	1 05	The Welch Grape Juice Co., Westfield, N. Y.	Labelled 'Pure and unfermented.'
" 30	"	34311	Nelsons Drug Store, Vancouver, B.C.	3 "	1 20	J. J. McLaughlin, Toronto, Ont.	" "
" 30	"	34312	W.M. Harrison, Vancouver, B. C.	3 qts.	1 50	N. C. Polson & Co., Kingston, Ont.	Labelled 'Peurita Unfermented Grape Juice.' Guaranteed free from alcohol or spirits.
" 30	"	34313	Woodwards Deptl. Stores, Vancouver, B. C.	3 pts.	1 20	The Ont. Grape Growing and Wine Mfg. Co., St. Catharines, Ont.	Sold in bulk and guaganteed by vendor as unfermented.
" 30	"	34314	H. McDowell, & Co., Vancouver, B.C.	3 qts.	3 00	La Société Anonyme Du Mas de la Ville. Arlis, France.	Imported and supplied by R. P. Rithet, Victoria, Guaran teed by vendor unfermented grape juice.
DISTRICT OF VICTORIA--							
July 22	Unfermented Grape Juice.	34952	Saunders Grocery Co., Ltd.	3 bot.	1 50	Ingersoll & Mellnish, London, Eng.	Mas-de-la Ville wine.
" 23	"	34960	Fred. Carne	3 "	1 05	Ontario Grape Juice Co., Niagara Falls, Can.	Noye's Ontario Grape Juice.
" 23	"	34964	Copas & Young.....	3 "	1 00	Ingersoll & Mellnish, London, Eng.	Mas de-la Ville wine.
" 24	"	34970	Dixi H. Ross & Co.	3 "	1 20	The Welch Grape Juice Co., Westfield, N. Y.	Welch's grape juice.
" 31	"	34976	Geo. E. Fraser .....	3 "	1 20	The Welch Grape Juice Co., Westfield, N. Y.	" "
Oct. 29	Pure Black Cherry Wine.	A	Toronto Wine Co., Toronto, Ont.	.....	.....	Toronto Wine Co., Toronto, Ont.	Sample labelled 'Pure Black Cherry Wine. Bottled by Toronto Wine Co., Toronto, Ont.











SESSIONAL PAPER No. 14  
UNFERMENTED GRAPE JUICE—*Concluded.*

RESULTS OF ANALYSIS.															
Of Juice.	Of Distillate.	Spec. Grav.	Alcohol by Volume of Proof spirit.	Extract.		Ash.	Alkalinity of water solution, ash cc. Acid per 100.	Acidity.		Polarization.		Sucrose by Clerget's Formula.	Reducing sugar, Gms. per 100 cc.	Remarks and Opinion of the Chief Analyst.	
				From Sp. Gr. of sample, Gms. per 100 cc.	48 hrs. drying in water oven, Gms. per 100 cc.			Total.	Fixed Gms. per 100 cc.	Volatile.	Direct.				Invert.
D. O'SULLIVAN, INSPECTOR.															
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
1.1482	0.9994	0.70	39.15	.....	0.08	9.2	1.08	.....	.....	-34.6	-40.0	1.05		Sample strongly dyed, red aniline dye. Gives strong reaction for salicylic acid. Flavor and odor somewhat of raspberry. Sp. gr. of dealcoholated juice 1.1496.	



APPENDIX Q.

BULLETIN No. 167—SPIRITUS ÆTHERIS NITROSI.

OTTAWA, December 9, 1908.

W. J. GERALD, ESQ.,  
Deputy Minister of Inland Revenue.

SIR,—I have the honour to report upon 77 samples of *Spiritus Ætheris Nitrosi* or Spirit of Nitrous Ether, collected throughout Canada in October last.

This important drug consists essentially of a solution of ethyl nitrite in alcohol. The directions given for its preparation in the British Pharmacopœia are such as to produce a solution answering the following official tests. Treated for decomposition of the nitrite, at normal temperature and pressure, it should yield, ‘when freshly prepared, at least  $6\frac{1}{4}$ , but not more than 7, volumes of nitric oxide gas, corresponding to at least  $2\frac{1}{2}$  parts by weight of ethyl nitrite in 100 parts by weight of the spirit: and even after it has been kept for some time, and the vessel containing it has occasionally been opened, it should yield not much less than 5 times its volume of the gas, corresponding to nearly 2 per cent by weight of ethyl nitrite or a minimum of  $1\frac{3}{4}$  per cent.’

The United States Pharmacopœia requires 4 per cent of ethyl nitrite in the freshly prepared article, corresponding to 11 times its volume of nitric oxide. The percentage content in ethyl nitrite, as given in the table of analyses, is calculated upon the basis of 4 per cent ethyl nitrite, equivalent to 11 volumes of nitric oxide.

It may be incidentally noted that Dr. Leech (*The Lancet*, London, Feb., 1889) has shown that this preparation owes its characteristic physiological properties to its content of ethyl nitrite. But, apart from this consideration, so long as the article remains pharmacopœal, it is the duty of this department, as administering the Adulteration Act, to see that the requirements of the Pharmacopœias are met. The following percentages of ethyl nitrite are distinctly required by the pharmacopœias in question.

BRITISH PHARMACOPŒIA.

For freshly prepared Spirit of Nitrous Ether.

	Per cent.
Maximum.....	2·55
Minimum.....	2·27
For spirit ‘kept some time, &c.’	
Minimum.....	1·75

Requires 4 per cent of ethyl nitrite.

I am compelled to pronounce all samples containing less than 1·75 per cent of ethyl nitrite as adulterated under section 7 of the Adulteration Act (R.S. 1906, chap. 133).

It is well known that this preparation gradually loses its strength on keeping. The fact is expressly stated in the pharmacopœias. It follows that druggists should take proper precautions to enable them to guarantee the article which they dispense, as meeting at least, the minimum strength officially required. It will be seen that four (4) samples examined contain no ethyl nitrite whatever; while (15) fifteen others contain less than half of one per cent. A physician prescribing such an article would assuredly be disappointed in results; and when we bear in mind that this drug is ‘much used in



## SESSIONAL PAPER No. 14

febrile conditions, to produce critical sweating, as a diuretic to relieve strangury produced by cantharides, in all painful affections of the urinary apparatus, whether occasioned by calculous or inflammatory disorders, and in affections of the kidneys, in which congestion of those organs occurs . . . . . and to quiet nervous agitation, we can realize, to some extent, the danger to the public which is involved in the failure of druggists to keep this drug up to pharmacopœal standards.

The samples now reported are classified as follows :—

	Samples.
Genuine . . . . .	28
Adulterated.. . . .	49
Total . . . . .	77

It thus appears that above 63 per cent of these samples are adulterated.

The last examination of Spirit of Nitrous Ether was made in 1891, and the results published in Bulletin No. 23. On that occasion nine (9) samples were examined, and only three (3) were reported as up to standard strength.

It is evident that the retail druggist must be held responsible for the proper strength of this article since it is so liable to lose strength on keeping, especially when the container is frequently opened. The late Mr. Harrison, reporting upon samples examined by him in 1891, says — 'Samples which I prepared according to the B. P. process, and kept in glass stoppered bottles, entirely filled, were of full strength after keeping one year; but after the bottle was opened, and on using out of it daily, it gradually deteriorated, so that I think it ought to be kept in bottles completely full, and with glass stoppers, and of such size that it will be disposed of in about a fortnight after being opened.'

I have the honour to be, sir,

Your obedient servant,

A. MCGILL.

*(Signed Analyst.)*



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.
				Quantity.	Cents.	
DISTRICT OF NOVA SCOTIA—						
1908.						
Oct. 13	Spirit of nitrous ether	33751	Geo. Friend, Sydney, N.S.	3 oz..	30	Nat. Drug. Co., Halifax, N.S.
" 13	"	33752	J. J. Turnbull, Sydney, N.S.	3 " ..	25	" " "
" 15	"	33753	Crowe Bros., Truro, N.S.	3 " ..	25	E. Merck, Germany....
" 15	"	33754	E. A. Smith, Truro, N.S.	3 " ..	35	Unknown .....
" 16	"	33755	A. V. Rand, Wolfville, N.S.	3 " ..	35	E. Merck .....
DISTRICT OF PRINCE EDWARD ISLAND—						
Oct. 29	Spirit of nitrous ether	31411	N. R. Bovyer, Crapaud ...	3 oz..	30	Lyman Sons & Co., Montreal.
" 29	"	31412	J. & G. Jamieson, Charlottetown.	3 " ..	30	" " "
" 29	"	31413	J. E. Gallant, Tignish....	3 " ..	30	Nat. Drug Co., Halifax, N.S.
" 29	"	31414	McFayden & McLellan, Summerside.	3 " ..	30	Can. Drug Co., St. John, N.B.
" 29	"	31415	Edgar Keir, Kensington...	3 " ..	30	Howard & Song, Stratford, Eng.
DISTRICT OF NEW BRUNSWICK—						
Oct. 19	Spirit of nitrous ether	29844	Nat. Drug and Chemical Co., St. John, N.B.	3 oz..	25	Nat. Drug and Chemical Co., St. John, N.B.....
" 21	"	29845	W. Hawker & Son, St. John, N. B.	3 " ..	30	Howard & Sons, Stratford, Eng.
Nov. 6	"	29846	Geo. O. Spencer, Moncton, N.B.	3 " ..	30	Not known .....
" 7	"	29847	T. J. Durick, Newcastle, N.B.	3 " ..	25	Evans Sons & Co., London, Eng.
" 18	"	29848	Chas. A. Burchill, Fredericton, N.B.	3 " ..	30	Nat. Drug and Chemical Co., St. John, N.B.
DISTRICT OF QUEBEC—						
Oct. 21	Spirit of nitrous ether	34478	F. E. Gilbert, Rivière du Loup.	3 oz..	30	Lyman & Sons, Montreal...
" 21	"	34479	S. C. Clouthier, Rivière du Loup.	3 " ..	30	W. Brunette et Cie, Quebec.
" 21	"	34481	Wm. Kane, Rivière du Loup.	3 " ..	25	Lyman & Sons, Montreal...
Nov. 9	"	34491	Arthur Gagnon, Murray Bay.	4 " ..	32	W. Brunette et Cie, Quebec.
" 9	"	34492	Dr. T. A. Lapointe, Murray Bay.	6 " ..	45	" " "
DISTRICT OF ST. HYACINTHE—						
Oct. 8	Spirit of nitrous ether	880	J. S. Trumble, Montreal.	3 oz..	35	Lyman Sons & Co., Montreal
" 12	"	881	Omer St. Amour, Ste. Agathe des Monts.	3 " ..	25	" " "
" 14	"	882	T. Gaudet, Joliette.	3 " ..	25	" " "
" 16	"	883	C. Denault, 73 St. Catherine, Viauville.	3 " ..	25	Lyman Knox & Co., Montreal.
" 30	"	884	H. W. Reynolds, Montreal.	3 " ..	25	Not known .....



SESSIONAL PAPER No. 14  
ÆTHERIS NITROSI.

Inspector's Report.	RESULTS OF ANALYSIS.						Remarks, and Opinion of the Chief Analyst.
	Nitric Oxide Gas per cent.	Ratio, Vol. of Gas to Vol. of Liquid.	Per cent. Ethyl Ni- trate.				

R. J. WAUGH, INSPECTOR.

	p. c.	p. c.	p. c.		
.....	4.80	4.8	1.75	Up to minimum standard....	Genuine.
.....	3.64	3.7	1.35	Below minimum standard....	Adulterated.
.....	1.70	1.7	0.62		
.....	5.20	5.2	1.89	Up to minimum standard..	Genuine.
.....	7.16	7.2	2.62		"

THOS. MOORE, INSPECTOR.

.....	0.00	0.0	0.0	Below minimum standard....	Adulterated.
.....	1.00	1.0	0.36	"	"
.....	3.60	3.6	1.31		
.....	50	0.5	0.18	"	"
.....	7.20	7.2	2.62	Up to standard .....	Genuine.

J. C. FERGUSON, INSPECTOR.

Labelled by company	4.90	4.9	1.78	Up to standard	Genuine.
.....	3.50	3.5	1.28	Below minimum standard....	Adulterated.
.....	5.80	5.8	2.11	Up to standard	Genuine.
Furnished to vendor by Nat. Drug and Chemical Co.	6.30	6.3	2.29	"	"
Sample filled from original package.	5.48	5.5	2.00	"	"

E. BELAND, INSPECTOR.

.....	2.00	2.0	0.73	Below minimum standard....	Adulterated.
.....	3.00	3.0	1.09	"	"
.....	0.00	0.0	0.0		
.....	2.00	2.0	0.73		
.....	0.00	0.0	0.0	"	"

J. C. ROULEAU, INSPECTOR.

.....	1.90	1.9	0.69	Below minimum standard....	Adulterated.
.....	.42	0.4	0.15		"
.....	2.06	2.1	0.77	"	"
.....	2.00	2.0	0.73	"	"
.....	.20	0.2	0.07		"



9-10 EDWARD VII., A. 1910

BULLETIN No. 167—SPIRITUS

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.
				Quantity.	Cents.	
DISTRICT OF MONTREAL—						
1908.						
Oct. 5	Spirit of nitrous ether	32776	Wright & Co., St. Johns, Que.	3 oz..	25	Lyman Sons & Co., Montreal
" 8	"	32777	P. E. Chevalier, Sorel, Que.	3 " ..	30	Not known.....
" 8	"	32778	Dr. A. R. Larochelle, Sorel, Que.	3 " ..	25	Lyman, Knox & Co., Montreal.
" 9	"	32779	F. T. Ansell, Sherbrooke..	3 " ..	30	Nat. Drug and Chemical Co., Ltd., Montreal.
" 9	"	32780	Dr. Chagnon, Sherbrooke..	3 " ..	25	Not known.....
DISTRICT OF OTTAWA—						
Sept. 30	Spirit of nitrous ether	22701	Dr. J. W. McIntosh, Vank-leek Hill.	3 oz..	25	Lyman Sons & Co., Montreal
Oct. 1	"	22702	John Channonhouse, Eganville.	3 " ..	25	Nat. Drug Co., Ottawa. ...
" 9	"	22703	D. J. Ritza, Renfrew .....	3 " ..	25	Not known.....
" 13	"	22704	W. A. Henderson, Ottawa.	3 " ..	30	Ottawa Drug Co., Ottawa...
" 13	"	22705	Thos. A. Brownlee, Ottawa	3 " ..	30	Nat. Drug and Chemical Co., Ottawa.
DISTRICT OF KINGSTON—						
Oct. 29	Spirit of nitrous ether	36076	F. Hoag, Kingston.....	3 oz..	15	H. Skinner, Kingston.....
" 29	"	36077	A. P. Chown, Kingston. .	3 " ..	30	" " " .....
Nov. 3	"	36078	G. Watson, Port Hope....	3 " ..	15	Nat. Drug Co. . . . .
" 3	"	36079	H. W. Mitchell, Port Hope	3 " ..	25	" " " .....
" 4	"	36080	E. Gregory, Lindsay.....	3 " ..	15	Lyman, Toronto.....
DISTRICT OF TORONTO—						
Oct. 23	Spirit of nitrous ether	36146	Hennessy Drug Store, Ltd., Hamilton.	3 oz..	25	Dom. Drug Co., Ltd., Hamilton.
" 23	"	36147	Harry P. Leeter, Hamilton	3 " ..	25	" " " .....
" 26	"	36148	H. A. Rowland, Toronto..	3 " ..	15	Lyman Bros. & Co., Toronto.
" 26	"	36149	F. B. Bunting, Toronto ...	3 " ..	30	The Drug Trading Co, " ..
" 27	"	36150	S. B. Pretty, Toronto.....	3 " ..	15	Nat. Drug Co., Toronto.....
DISTRICT OF LONDON—						
Oct. 7	Spirit of nitrous ether	30503	Geo. M. McKendrek, Kin-cardine.	3 oz..	30	J. Winer & Co., Hamilton..
" 7	"	30510	L. A. Hacking, Listowell..	3 " ..	15	Vendor.....
" 12	"	30520	W. A. McConnell, Clinton	3 " ..	16	Canada Drug Co., London..
" 5	"	30984	S. A. Hicks, Goderich ...	3 " ..	30	Not known.....
" 6	"	30993	J. M. Hamilton, Blythe...	3 " ..	30	Nat. Drug Co., London, Ont.
" 6	"	30995	Walter McKibbon, Wing-ham.	3 " ..	30	The Drug Traiding Co., Toronto.
" 8	"	30514	Chas. Aberhart, Seaforth .	3 " ..	30	Lyman Bros. & Co., Toronto



## SESSIONAL PAPER No. 14,

## ÆTHERIS NITROSI.

Inspector's Report.	RESULTS OF ANALYSIS.			Remarks, and Opinion of the Chief Analyst
	Nitric Oxide Gas, Vol. per cent.	Ratio, Vol. of Gas to Vol. of Liquid.	Per cent. Ethyl Nitrite	
J. J. COSTIGAN, INSPECTOR.				
.....	p. c. 176	p. c. 1.7	p. c. 0.62	Below minimum standard.. Adulterated.
...	146	1.5	0.55	
...	76	0.8	0.29	
.....	494	4.9	1.79	Up to minimum standard.. .. . Genuine.
.....	110	1.1	0.40	Below minimum standard... Adulterated.
J. A. RICKEY, INSPECTOR.				
Sold as spirit of Nitrous ether	74	0.7	0.26	Below minimum standard Adulterated.
"	30	0.3	0.11	
Stock bought from former owner; sold as pure nitrous ether.	946	9.2	3.35	Up to standard.. .... . Genuine.
Vendor buys conc. spt. æth. nit. and dilutes with stronger alcohol; sold as spt. æth. nit.	934	9.3	3.38	
Sold as sept. æth. nit.. ....	20	0.2	0.07	Below minimum standard.. Adulterated.
JAS. HOGAN, INSPECTOR.				
.....	1000	10.0	3.64	Up to standard Genuine.
.....	360	3.6	1.31	Below minimum standard Adulterated.
.....	60	0.6	0.22	
.....	74	0.7	0.26	" "
.....	Trace.	Trace.	Trace.	
H. J. DAGER, INSPECTOR.				
.....	480	4.18	1.75	Up to minimum standard... Genuine.
.....	10	0.1	0.04	Below " .... Adulterated.
.....	246	2.5	0.51	
.....	544	5.4	1.97	Up to " Genuine.
.....	Trace.	Trace.	Trace.	Below " ... Adulterated.
T. KIDD, INSPECTOR.				
.....	125	1.8	0.66	Below minimum standard.. Adulterated.
Sample purchase from a boy who said they made same themselves.	60	0.0	0.0	
.....	170	1.7	0.62	
.....	40	0.4	0.15	
.....	350	3.5	1.28	
.....	560	5.6	2.04	Up to " .... Genuine.
.....	380	3.8	1.38	Below " .... Adulterated.



Date of Collection.	Nature of Sample.	No. of Sample.	Nature and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.
				Quantity.	Cents.	
DISTRICT OF WINDSOR—						
1908.						
Oct. 16	Spirit of nitrous ether	34651	F. H. Laing, Windsor.....	3 oz..	25	Albany Chem. Co.....
" 16	"	34652	W. A. Pond, Windsor ....	3 " ..	30	Nat. Drug Co., London.....
" 16	"	34654	H. O. Fleming, Windsor..	3 " ..	30	Dom. Drug Co., Hamilton..
" 19	"	34657	Jno. P. Jepson, Windsor..	3 " ..	30	J. P. Jepson.....
" 19	"	34658	L. G. Eggelton, London, East. ....	3 " ..	30	Not known.....
DISTRICT OF MANITOBA—						
Oct. 28	Spirit of nitrous ether	35702	Vrooman & McCullough, Winnipeg.	3 oz..	25	Not given.
" 28	"	35703	Speer-Stevenson Drug Co., Winnipeg.	3 " ..	25	.....
" 28	"	35704	E. Nesbitt, Winnipeg ..	3 " ..	25	E. Nesbitt, Winnipeg, Man.
" 28	"	35705	Austin's Drug Store, Winnipeg.	3 " ..	25	W. R. Austin, Winnipeg, Man.
" 28	"	35706	Percy F. Braund, Winnipeg	3 " ..	25	The Ball Drug Co., Winnipeg, Man.
DISTRICT OF CALGARY—						
Nov. 26	Spirit of nitrous ether	35476	B. F. South, Medicine Hat	3 oz..	30	Albany Chem. Co., Albany.
" 26	"	35477	Higinbotham & Co., Lethbridge.	3 " ..	30	Lyman Sons & Co., Montreal
" 26	"	35478	J. J. Johnston, Lethbridge	3 " ..	30	" " ..
" 26	"	35479	Alberta Drug & Book Co., Lethbridge.	3 " ..	30	" " ..
" 30	"	35480	C. A. Wallace, Calgary.	3 " ..	30	J. Winer & Co., Hamilton..
DISTRICT OF VANCOUVER—						
Oct. 7	Spirit of nitrous ether	34353	McDuffee Bros. & Co., Vancouver.	3 oz..	40	Not known.
" 7	"	34354	Only Drug Store, Vancouver.	3 " ..	15	Evans Sons, Lescher&Webb, Montreal.
" 7	"	34355	Central Drug Store, Vancouver.	3 " ..	25	Evans Sons, Lescher & Webb, Liverpool, Eng.
" 7	"	34356	Haughtons Drug Store, Vancouver.	3 " ..	30	Henderson Bros., Vancouver
" 7	"	34357	R. H. Morrison & Co., Vancouver.	3 " ..	25	Nat. Drug Co., Vancouver.
DISTRICT OF VICTORIA—						
Nov. 30	Spirit of nitrous ether	39252	Wm. Jackson & Co., Victoria, B. C.	3 oz..	35	Baiss Bros. & Stevenson, Ltd., London, E. C.
" 30	"	39253	W. S. Terry, Victoria, B.C.	3 " ..	25	Mallinckrodt Chem. Works, St. Louis, U.S.A.
" 30	"	39254	D. E. Campbell.	3 " ..	25	Howard & Sons, Lond., E.C.
" 30	"	39255	F. J. Williams.	3 " ..	40	Vendor.....
" 30	"	39256	Geo. A. Fraser.	3 " ..	25	Evans Sons, Lescher&Webb, Liverpool, Eng.



SESSIONAL PAPER No. 14

ÆTHERIS NITROSI.

Inspector's Report.	RESULTS OF ANALYSIS.				Remarks, and Opinion of the Chief Analyst.
	Nitric Oxide Gas, Vol. per cent.	Ratio, Vol. of Gas to Vol. of Liquid.	Per cent. Ethyl Ni- trite.		

JNO. TALBOT, INSPECTOR.

.....	p. c.	p. c.	p. c.		
.....	704	7.0	2.55	Up to standard.	Genuine.
.....	610	6.1	2.22		
.....	216	2.2	0.80	Below minimum standard.	Adulterated.
Made from concentrated ether	910	9.1	3.31	Up to standard.....	Genuine.
.....	390	3.9	1.42	Below minimum standard...	Adulterated.

A. C. LARIVIERE, INSPECTOR.

.....	380	3.8	1.38	Below minimum standard.	Adulterated.
Sample from a bottle labelled sweet spirits of nitro, Spear Stevenson Drug Co., Win- nipeg, Man.	940	9.4	3.42	Up to standard.....	Genuine.
.....	780	7.8	2.11		
.....	600	6.0	2.18		
.....	354	3.5	1.28	Below minimum standard...	Adulterated.

R. W. FLETCHER, INSPECTOR.

.....	780	7.8	2.84	Up to standard.	Genuine.
.....	156	1.6	0.58	Below minimum standard...	Adulterated.
.....	920	9.2	3.35	Up to standard.	Genuine.
.....	200	2.0	0.73	Below minimum standard...	Adulterated.
.....	180	1.8	0.66		

J. F. POWER, INSPECTOR.

.....	144	1.4	0.51	Below minimum standard...	Adulterated.
.....	554	5.5	2.00	Up to standard...	Genuine.
.....	350	3.5	1.28	Below minimum standard...	Adulterated.
.....	290	2.9	1.06	"	"
.....	586	5.9	2.15	Up to standard..	Genuine.

D. O'SULLIVAN, INSPECTOR.

.....	340	3.4	1.24	Below minimum standard...	Adulterated.
.....	566	5.6	2.04	Up to standard.....	Genuine.
.....	260	2.6	0.95	Below minimum standard...	Adulterated.
.....	1024	10.2	3.71	Up to standard....	Genuine.
.....	512	5.1	1.86	" minimum standard...	"



APPENDIX R.

BULLETIN No. 168—TINCTURE OF OPIUM.

OTTAWA, December 16, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 31 samples of Tincture of Opium, (commonly known as Laudanum). This is a very important preparation of Opium, and its activity is due to its content in morphine. *Opium* may contain anywhere from 6 to 15 per cent of Morphine (Allen. Commercial Organic Analysis ; Vol. III, part 2, page 333). This great variability of the crude drug makes it necessary that its alcoholic extract should be carefully standardized before being employed in preparing the Tincture. Minute directions are given in the British Pharmacopœia for the valuation of the extract, and for the manufacture of the tincture. The finished tincture should contain 0·75 gramme of morphine (anhydrous), in each 100 cubic centimetres. Since it is practically impossible to keep an alcoholic tincture at absolutely constant strength, under ordinary conditions of pharmacy, the B. P. fixes definite limits (maximum and minimum) for this tincture, requiring that it shall not exceed a morphine strength of 0·80 nor fall below a morphine strength of 0·70 gramme per 100 cubic centimetres.

The Tincture of Opium of the United States Pharmacopœia is standardized with equal care ; but is a much stronger tincture than that of the B. P. It contains 1·20 to 1·25 gramme of crystallizable morphine per 100 cubic centimetres, being therefore stronger than the B. P. Tincture in the ratio of 5 to 3. The average dose of the U. S. P. Tincture is fixed at 8 drops ; while that of the B. P. Tincture is stated to be 5 to 15 drops for repeated administration, or 20 to 30 drops for a single administration.

It is obvious that in all the samples now reported, the intention of the manufacturer has been to meet the B. P. standard.

There is every evidence to show that this very important preparation is of good quality in Canada. Of the 31 samples now reported, 10 are strictly within the limits of B. P. strength, while 6 others are practically within the limits. This interpretation of the results of analysis is made necessary from consideration of the fact that duplicate analyses, made with the greatest care, may differ about 0·020 in terms of morphine percentage so that (unless one could take the mean of a number of independent analyses of the same sample, a condition obviously impossible in this class of work) we must accept a possible error of 0·020, and consider percentages found between 0·680 and 0·820 as complying with the B. P. standard. Even the extremest variations found maximum = 0·940 morphine, minimum = 0·636 morphine, cannot be considered as indicating any dangerous deviation from the B. P. standard. These cases may be due to some carelessness in manufacture, to evaporation of the solvent through too long keeping in imperfectly closed bottles, or to additions of alcohol or water, with a view to making up loss due to evaporation. A strict interpretation of pharmacopœal directions would classify the samples herein reported as follows :—

			Samples.
Within standard limits.....			16
Above	“	“ .....,.....	5
Below	“	“ .....,.....	10
Total .....			31



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For reasons already given I consider that it would be going too far to describe the 15 samples included under the last two categories as adulterated, although a strict interpretation of the results of analysis might warrant this.

The only previous examination of Tincture of Opium made under the Adulteration Act, is reported in Bulletin No. 60, (January, 1899). On that occasion 15 samples were reported, and found to be as follows:—

			Samples.
Morphine content	correct	.....	8
"	"	high	2
"	"	low	5
Total			15

I beg to recommend the publication of this report as Bulletin No. 168.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



BULLETIN No. 168—TINCTURE OF OPIUM

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	\$ cts.			Morphine.	p.c.	

DISTRICT OF NOVA SCOTIA R. J. WAUGH, INSPECTOR.

1908.										
Oct. 13	Tincture of Opium.	33756	F. J. Harrison, Sydney, N.S.	6 oz.	65	Vendor			0.909	Slightly above official strength, B.P., and not up to U.S.P. strength.
" 13	"	33757	C. J. Sparrow, Sydney, N.S.	6 "	60	"			0.800	Standard strength.

DISTRICT OF PRINCE EDWARD ISLAND—T. MOORE, INSPECTOR.

Oct. 29	Tincture of Opium.	31416	A. W. P. Gourlie, Summerside, N.B.	6 oz.	90	Burroughs, Wellcome & Co., London, Eng.			0.709	Standard strength.
" 29	"	31417	W. B. Dyer, Alberton	6 "	72	Park, Davis & Co., Walkerville, Ont.			0.812	Practically of B.P. strength.

DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

Oct. 21	Tincture of Opium.	29849	E. Clinton Brown, St. John, N.B.	6 oz.	90	Vendor			0.806	Practically of B.P. strength.
Nov. 6	"	29850	Fairweather Bros., Moncton.	6 "	60	Lyman, Sons & Co., Montreal.	Sample from original pkge labelled 'Tincture of Opium', prepared according to British Pharmacopœia.		0.636	Slightly below B.P. strength.



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## DISTRICT OF QUEBEC E. BELAND, INSPECTOR

Oct. 21	Tincture of Opium	34477 F. E. Gilbert, Rivière du Loup	60	Lynam & Son, Montreal	0 670	Slightly below B. P. strength.
" 21	"	34480 E. O. Cloutier, Rivière du Loup	60	W. Brunette & Co., Quebec	0 738	Standard strength.
" 21	"	34482 Thos. Kane, Rivière du Loup	50	Lynam & Son, Montreal	0 818	Practically of standard strength.

## DISTRICT OF ST. HYACINTHE J. C. ROULLEAU, INSPECTOR.

Oct. 29	Tincture of Opium	886 J. E. St. Onge, Valleyfield	1 00	Lynam, Sons & Co., Montreal	0 710	Standard strength.
" 30	"	887 H. Campeau, Montreal	60	Lynam, Knox & Co., Montreal	0 688	Practically of standard strength.

## DISTRICT OF MONTREAL J. J. COSTIGAN, INSPECTOR

Oct. 5	Tincture of Opium	32781 Dr. Guy, St. John's, P.Q.	60	Not known	0 664	Slightly below B. P. strength.
" 10	"	32782 J. C. Sutherland, Richmond, P.Q.	75	Lynam, Sons & Co.	0 660	" "

## DISTRICT OF OTTAWA J. A. RICEY, INSPECTOR.

Oct. 13	Tincture of Opium	22706 Clarence H. Lewis, druggist, Ottawa	60	Barreth's, Wellesboro Co., London, Eng.	0 681	Practically of standard strength.
" 13	"	22707 A. R. Farley, druggist, Hull, P.Q.	60	Vendor	0 902	Slightly above B. P. strength, and not up to U. S. P. standard.

## DISTRICT OF KINGSTON JAS. HOGAN, INSPECTOR

Nov. 3	Tincture of Opium	36081 O. G. Johns, Cobourg	60	Vendor	0 641	Slightly below B. P. strength.
" 3	"	36082 A. J. Gould, Cobourg	50	"	0 767	Standard strength.



BULLETIN No. 168—TINCTURE OF OPIUM.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	Results of Analysis.		Remarks and Opinion of the Chief Analyst.
				Quantity.	\$ cts.			Morphine.	Pg.	

DISTRICT OF TORONTO H. J. DAGER, INSPECTOR.

Oct. 23	Tincture of Opium.	35199	W. A. Howell, Hamilton.	6 oz.	90	Vendor	Labelled Laudanum.	0.940		Slightly above B. P. strength, and not up to U. S. P.
" 27	"	35200	W. H. Andrew, Toronto	6 "	60	Lynman Bros. & Co., Ltd., Toronto.	"	0.641		Slightly below B. P. strength.

DISTRICT OF LONDON T. KIDD, INSPECTOR, AND J. TALBOT, ACTING INSPECTOR.

Oct. 5	Tincture of Opium.	30989	H. C. Dunlop, Goderich.	6 oz.	1 00	Nat. Drug Co., Hamilton, Ont.		0.703		Standard strength.
Nov. 15	"	34098	John D. McKee, Guelph.	6 "	1 20	Vendor	Sample made from conc. Tr. Opn purchased from Burroughs, Wellcome & Co.	0.636		Slightly below B. P. strength.

DISTRICT OF WINDSOR J. TALBOT, INSPECTOR.

Oct. 16	Tincture of Opium.	34056	W. A. Pond, Windsor, Ont.	6 oz.	75	Dom. Drug Co., Hamilton.		0.728		Standard strength.
" 19	"	34059	Dr. W. L. Smith, London, East.	6 "	65	Nat. Drug Co., London		0.717		"



## SESSIONAL PAPER No. 14

## DISTRICT OF MANITOBA A. C. LARIVIERE, INSPECTOR.

Oct.	28	Time of Opium	35707 F. Whaley, Winnipeg	6 oz.	60	Lyman, Sons & Co., Montreal. real.	Labelled "The Opium."	0.670	Slightly below B.P. strength.
"	28	"	35708 D. W. Bradshaw, Winnipeg	6 oz.	60	Venour		0.784	Standard strength.

## DISTRICT OF CALGARY R. W. FLETCHER, INSPECTOR.

Nov.	24	Time of Opium	35481 E. M. Cawker, Medicine Hat.	6 oz.	90	Lyman, Sons & Co., Montreal.		0.664	Slightly below B.P. strength.
"	24	"	35482 C. T. Pringle, Medicine Hat.	6 oz.	90	"		0.664	"

## DISTRICT OF VANCOUVER J. F. POWELL, INSPECTOR.

Oct.	8	Time of Opium	34358 Post Office, Drug Store, Vancouver.	6 oz.	150	Nat. Drug Co., Vancouver.		0.760	Standard strength.
"	8	"	34359 Henderson's Drug Store, Vancouver.	6 oz.	100	Henderson Bros., Vancouver.		0.824	Practically of standard strength.

## DISTRICT OF VICTORIA D. OSULLIVAN, INSPECTOR.

Nov.	3	Time of Opium	39267 Dean & Hookes.	6 oz.	100	Henderson Bros., Vancouver.		0.880	Slightly above B.P. strength;
"	3	"	39268 Hall & Co.	6 oz.	75	Vendors		0.822	not up to B.P.



## APPENDIX S.

## BULLETIN No. 169—CIDER.

OTTAWA, December 18, 1908

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 62 samples purchased as cider, in July and August of the present year. The samples represent this article as sold throughout Canada, with exception of the London district, in which no collection was made.

“Cider is a beverage produced by the fermentation of the juice of apples.” (Thorpe’s Dictionary of App. Chemistry, Vol. I, p. 560).

The following definition for cider is contained in a draft bill for a Uniform Food Law proposed for the United States. (Am. Food Journal, Dec., 1908):—“Cider, hard cider, is the product made by the normal alcoholic fermentation of apple juice, and the usual cellar treatment, and contains not more than seven (7) per cent by volume of alcohol\* and, in one hundred (100) cubic centimeters (20°C.), of the cider, not less than two (2) grams nor more than twelve (12) grams of solids, not more than eight (8) grams of sugars, in terms of reducing sugars, and not less than twenty (20) centigrams nor more than forty (40) centigrams of cider ash.

“Sparkling cider, champagne cider, is cider in which the after-part of the fermentation is completed in closed containers, with or without the addition of cider or sugar liquor, and contains, in one hundred (100) cubic centimeters (20°C.), not less than twenty (20) centigrams of cider ash.

It is evident that in order to the intelligent interpretation of the results of analysis of cider, we must study the normal juice of apples.

The subject was first undertaken by this department in 1904; and in Bulletin No. 94 of that year, will be found the results of examination of 41 samples of commercial cider. In his prefatory remarks, the late Chief Analyst mentions having examined 5 samples of fresh apple juice, obtained at Lambeth, Ont. The specific gravity ranged from 1·0464 to 1·0485 corresponding to 11·37 and 11·88 per cent of dissolved solids.\*

Two additional samples examined in 1903, gave gravities of 1·0546 and 1·0573, corresponding to 13·38 and 14·04 per cent of solids in solution. It is quite to be ex-

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\* Equivalent to 12·30 per cent of proof spirit, or 5·62 per cent of alcohol by weight.

\* The solids are calculated from the specific gravity of the non-alcoholic juice by the following formula:—Solids = 245 (S—1) where “S” is the specific gravity. (C. A. Browne, Jour. Am. Ch. Soc., 1901, p. 275.)



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pected that different varieties of apples should yield juice of different character. In this connection the following results are of interest. They are quoted from Bulletin 88 of the Bureau of Chemistry, Washington (published in 1904).

APPLE JUICE.‡

	Sp. Grav.	Solids.	Sugars.	Acidity.
Mean of 10 summer varieties.....	1·049	12·33	9·53	0·33
" 13 autumn "	1·054	13·76	10·66	0·36
" 19 winter "	1·056	14·29	11·43	0·41

C. A. Brown (Jour. Am. Chem. Soc., 1901, 871) gives the following composition of apple juices :—

	Sp. Grav.	Solids	Sugar	Acidity
Summer apples (5 analyses).	1·050	12·29	9·99	0·72
Winter apples (4 analyses).	1·057	13·96	11·97	0·43

‘Second pressings,’ made by wetting apple pomace with water, and repressing gave results as below :—

Sp. Grav.	Solids	Sugar
1·038	9·14	8·36

The volume of liquid obtained in this second pressing is not given, but it is evident that a considerable amount of soluble matter, chiefly sugars, remains in the pomace.

H. C. Gore in Bulletin 118 (1908) of the Bureau of Chemistry, Washington, gives the following results on apple juices :—

Variety of Apple	Sp. Grav.	Solids.	Sugar.	Acidity.
Yellow Newtown	1·0504	12·35	11·58	0·53
Ralls.....	1·0564	12·82	12·14	0·46
Ben Davis.....	1·0492	12·05	10·05	0·48
Winesap....	1·0475	11·64	10·02	0·46
Tolman.....	1·0638	13·03	13·95	0·13
Northern Spy.....	1·0608	14·90	12·82	0·61
Baldwin.....	1·0584	14·31	12·22	0·63
Roxbury.....	1·0688	16·86	13·81	0·70
Shockley.....	1·0457	11·20	10·01	0·29
Gilpin.....	1·0547	13·41	11·00	0·38
Kentucky Red.....	1·0628	14·90	12·66	0·72

From these studies it appears that true apple juice may vary as follows :—

Specific gravity from	1·0457	to	1·0688
Dissolved solids "	11·20	"	16·86 p.c.
Sugars "	9·53	"	13·95 "
Acidity "	0·13	"	0·72 "

Gore records experiments in the sterilization of apple juice. Perfect success was not obtained by heating to 65° C. (=149° F) although the acid varieties showed fair keeping quality. Sterilized at 65° to 70° C. (=149° F. to 158° F.) the juice kept perfectly in wooden containers for six months.

‡ The acidity is stated in terms of sulphuric acid ; and the solids are obtained by actual drying. The formula just quoted will give 12·01, 13·23 and 13·72.



9-10 EDWARD VII., A. 1910

The following specifications for apple juice, apple must or sweet cider are included in a draft bill for a Uniform Food Law proposed for the United States. (Am. Food Journal, Dec., 1908):—

‘Apple juice, apple must, sweet cider, is the fresh fruit juice obtained from apples, the fruit of *Pirus malus*, has a specific gravity (20° C.) not less than 1·0415 nor greater than 1·0690; and contains in one hundred (100) cubic centimeters (20° C.) not less than six (6) grams, and not more than twenty (20) grams of total sugars, in terms of reducing sugars, not less than twenty-four (24) centigrams nor more than sixty (60) centigrams of apple ash, which contains not less than fifty (50) per cent of potassium carbonate.’

The following summary of results on the sterilization of apple juice are so important, that I think it well to reproduce them from Bulletin 118 of the Bureau of Chemistry, p. 22:

#### SUMMARY.

‘(1) The experiments described show conclusively that it is possible to sterilize apple juice in wooden containers, the product remaining sound for at least six months under actual observation. The precautions which must be taken to insure this are as follows: First paraffin the containers on the outside, then sterilize, and fill with juices heated to between 149° and 158° F. (65° to 70° C.); seal, taking measures to relieve the vacuum produced by the contraction of the juice on cooling by filtering the air through cotton. Twenty-four 10-gallon kegs successfully stood a severe shipping test, showing no loss due to fermentation of the juice. The juice so prepared, was found to be palatable, and acceptable as a summer drink.

(2) It is demonstrated that apple juice can be successfully sterilized in tin containers, using the type of tin can sealed by the mechanical process, excluding all metals from contact with the juice except the tin of the can. Where lacquered cans are used the contamination with tin was reduced about one-half. Apple juices were canned and sterilized by heating in a hot water bath, up to the temperature of 149° F. (65° C.) for a half hour, and then were allowed to cool. These juices possessed only a slight cooked taste due to the heating and retained much of their distinctive apple flavour. It was found that from finely flavoured apple juice a first-class sterile product could be made, while a poorly flavoured apple juice yielded an inferior product. The process conditions mentioned were not quite thorough enough to sterilize all of the varieties canned. A slight increase in the temperature or time of processing, or both, should be made, the temperature not to exceed 70° C. (158° F.) in any case.

(3) The best treatment for sterilizing in glass was found to consist in heating for one hour at 149° F. or for one-half hour at 158° F. Heating for one hour at 158° did not produce marked deterioration in flavour, a half hour being allowed in all cases for the juice to obtain the temperature of the water bath.

(4) It was shown that the great bulk of the insoluble material naturally contained in apple juice can be removed by means of a milk separator.

(5) It is possible to carbonate the juice slightly before canning or bottling, thus adding a sparkle to the product. A flavour foreign to fresh apple juice is also added however, and uncarbonated sterile juice will resemble fresh apple juice more closely. Carbonating by the addition of water charged with carbon dioxide was considered by some to injure the flavour, lessening the characteristic fruit flavour by dilution. In the opinion of others a heavy, rich juice was improved both by the charge of carbon dioxide and by the consequent dilution. Experiments indicated that the danger of contamination by mold growths was lessened by maintaining an atmosphere of carbon dioxide above the surface of the juice after opening.

(6) It is demonstrated that benzoate of soda in quantities varying from 0·03 to 0·15 per cent (0·1 per cent being the maximum temporarily permitted by the food regulations) while it checks the alcoholic fermentation, allows other organisms to develop (notably the acetic acid ferment), whereby the palatability of the product as a beverage is destroyed.”

Apple juice, like other fruit juices, may undergo the alcoholic fermentation, the dissolved sugar producing approximately half its weight of alcohol. The fermented



## SESSIONAL PAPER No. 14

cider (*apfel wein* of Germany) bears the same relation to apple juice, which wine bears to the juice of the grape. This fermented cider, sometimes known as 'hard cider,' is often an unattractive beverage, owing to the great number of differing fermentations which occur in it. When, however, a selected and desirable yeast is used to induce a dominant fermentation, the product may be a very desirable drink. This phase of the question has been carefully studied by Alwood, Davidson and Moncure, of the Department of Agriculture of the United States, and the results of their investigations are published in Bulletin 88 of the Bureau of Chemistry.

When the fermentation is incomplete, the product is known as champagne cider and the authors named find that unless preservatives are used, it is difficult to bottle and hold a liquid containing much above 1.5 or 2 per cent of sugar. (U.S. Bulletin 98, p. 42).

The following results of analysis of Fermented Cider, prepared under expert supervision, are interesting and important. (U. S. Bull. 88, p. 41.)

	Specific Gravity	Total Solids.	Sugar.	Acidity.	ALCOHOL.	
					Weight.	Per Cent.
	1.004	2.60	0.98	0.35	4.43	9.72
	1.003	2.24	0.20	0.48	5.20	11.35
	0.999	1.79	trace	0.33	5.66	12.46
	1.004	2.48	0.64	0.43	5.28	11.50
	1.003	2.64	0.90	0.39	6.00	13.11
	0.999	1.69	trace	0.37	6.26	14.88
	0.998	1.73		0.37	6.20	13.56
	1.003	1.76		0.34	5.37	11.76
	1.011	3.84	2.11	0.51	4.23	9.30
	1.001	1.83	0.35	0.35	5.16	11.25
	1.005	2.39	0.75	0.32	4.76	10.40
	1.001	1.98	0.35	0.39	5.37	11.76
	1.000	1.59	trace	0.35	5.00	10.94
	1.003	2.17	0.38	0.41	4.66	10.24
	1.001	1.93	0.27	0.40	5.09	11.10
	1.005	2.73	1.41	0.38	5.48	11.90
Average . . . . .	1.002	2.21	0.52	0.39	5.26	11.50

Few fermented fruit juices possess distinctive names in English. The fermented juice of the grape is known as *Wine*, and in the cases of other fruits, it is usual to speak of the fermented juice as a special kind of wine. Thus we have currant wine, sherry wine, gooseberry wine, elderberry wine, &c. The fermented juices of the apple and the pear are exceptional inasmuch as they possess, distinctive names, Cider and Perry, respectively. The fact is of course due to the extensive use of these beverages in English speaking countries. France is easily the leading cider country of the world, followed by Germany, England, Switzerland, the United States, Canada, Austria, Grand Duchy of Luxembourg and Spain, in order of importance. . . . . The production of cider in France, in 1900, exceeded 647,000,000 gallons. . . . . No definite statistics are available as to the production of cider in England, but the Hon. C. W. Radcliffe Cooke, in a recent article in the *Nineteenth Century*, draws the conclusion that the total annual product is not less than 100,000,000 gallons, having a maximum value of nearly \$15,000,000?, W. B. Alwood, Bull. 71, (1903) Bureau of Chemistry, Washington.

The manufacture of cider has not received the attention which it deserves; and this is especially true of Canada. The apple crop of Canada is stated as 18,626,186 bushels, for 1901. (Can. Year Book, 1907). It is capable of great increase; and the manufacture of cider, under proper conditions, may become a great industry in Canada. That the world's market for cider is not fully supplied appears from the fact that dried apples, cores and parings are regularly shipped from United States to France, to be used



in the manufacture of a low quality of cider, in spite of the fact that France is itself the largest apple producing country of the world.

As in every other department of production for foreign markets, it is necessary that intelligence and skill should guide the hand of industry. Really excellent cider cannot be made from refuse apples, treated in the haphazard fashion to be seen on too many fruit farms in Canada. This is not the place to describe cider manufacture; but I shall take the opportunity of referring any one interested to Bulletins (Nos. 71, 88 and 118) of the Bureau of Chemistry, Washington, D. C.

Fifteen samples reported in this collection contain alcohol in amount less than two and a half (2½) per cent of proof spirit, and are therefore to be regarded as temperance beverages. (Legal standard for the province of Ontario). These samples are the following:—

Number	Sold as	Made by	Proof Spirit.	Total Solids.	
			p. c.	p. c.	
31304	Cider .....	No manuf's label on the bottle.	2·48	6·66	Salicylic acid, dyed.
26476	Cidre champagne .....	Els. Fortier & Cie, Quebec ....	None	10·95	
26499	Apple juice (Duffy's)....	Am. Fruit Prod. Co., Rochester	"	12·59	
163	Cidre de pommes.....	Nap. Berard, Sorel .....	"	6·78	Artificial flavour.
32621	Apple nectar. ....	Chas. Gurd & Co., Montreal..	"	9·82	
32623	Champagne cider .....	R. Millar, Montreal.....	"	4·14	
32624	Apple nectar.....	Rowan Bros. & Co., Montreal.	"	7·25	
32625	Champagne cider ....	Allens, Montreal .....	"	5·56	
35269	Cider .....		"	2·37	
35153	" .....		"	6·07	
33178	Fruit champagne, orange flavour.	Blackwoods, Ltd., Winnipeg..	0·93	8·40	Salicyllic acid, dyed.
33181	Orange cider .....	E. L. Drewry, Winnipeg.....	None	15·24	" "
34956	Boiled cider .....	Brady Houston Co., Victoria..	0·81	48·16	
34963	" .....	" "	0·81	48·90	
34967	" .....	" "	1·16	48·63	

It is quite apparent that none of these articles answer to the definition of cider; nor should they be sold under that name. None of them are made by the normal alcoholic fermentation of apple juice. They are correctly sold as 'soft drinks,' non-alcoholic or temperance drinks, or by any truly descriptive name which does not imply that they are cider. This name should be carefully protected, and correctly applied, according to the usage of the great cider-making countries of the world. Eleven of these samples are distinctly sold as cider, a fact which implies either that a real cider industry does not exist in Canada, or that no one is looking after its interests. Most of these beverages are artificial, being made from sugar, water, flavouring esters and colouring matters. No. 26499 (Duffy's Apple Juice) is the only one which bears evidence of being a bona fide apple product and true to name. Nos. 34956, 34963 and 34967 constitute a class by themselves, and cannot be regarded as cider proper, nor even as normal apple juice.

The subjoined table contains the more important analytical numbers found for the remaining samples (45 samples) of this collection. The last column is an attempt to calculate the original solids of the apple juice: and assumes that the alcohol found in the cider represents twice its weight of sugars in the juice. This hypothesis may be at fault in several ways, as by loss of alcohol through evaporation, or conversion into acetic acid, &c.: but doubtless possesses a considerable interpretative value.



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Number.	Proof Spirit.	Solids.	Ash.	Original Solids of Juice.	
	p. c.	p. c.	p. c.	p. c.	
33526.	6.84	8.72	0.15	14.96	
33527.	7.23	8.28	0.11	14.86	
33528.	7.36	8.15	0.27	14.88	
33529.	3.85	7.54	0.02	11.04	
33530.	9.86	2.08	0.22	11.08	
31301.	5.49	1.57	0.16	6.57	
31302.	7.87	1.49	0.19	8.67	
31303.	6.58	8.94	0.07	14.94	
31305.	3.03	14.38	0.00	17.17	Sold as orange cider; no label; contains salicylic acid.
29733.	5.86	9.85	0.13	15.49	
29734.	11.21	3.80	0.30	14.94	
29735.	6.47	6.10	0.14	11.98	
29736.	6.34	8.57	0.18	14.25	
29737.	6.22	7.37	0.25	13.63	Contains salicylic acid.
26492.	9.72	4.92	0.32	13.80	Benzoic ester.
26500.	9.86	6.63	0.24	15.63	
34401.	10.54	2.86	0.29	12.48	Contains salicylic acid.
160.	10.26	6.96	0.25	16.34	" acetic esters.
161.	10.67	4.55	0.16	14.29	
162.	9.72	6.96	0.28	15.84	Sweet apple cider.
32622.	9.04	2.69	0.11	10.93	
22653.	6.58	8.33	0.18	14.63	
22654.	6.10	4.28	0.27	9.84	Contains benzoic esters.
35265.	7.16	4.24	0.17	10.72	Salicylic acid.
35266.	10.40	6.83	0.37	16.31	
35267.	10.81	4.92	0.33	14.80	
35268.	10.81	2.86	0.20	12.74	
35149.	11.49	5.51	0.23	16.04	
35150.	9.04	4.95	0.26	13.97	Trace of salicylic acid.
35151.	11.08	5.73	0.25	17.85	
35152.	3.03	6.22	0.03	8.96	Contains salicylic acid.
34587.	4.40	8.79	0.13	12.79	
33177.	9.58	6.54	0.20	13.78	
33180.	10.54	5.34	0.28	14.96	
33311.	11.76	2.18	0.15	12.92	
33312.	8.58	3.31	0.19	10.95	
33314.	9.45	6.63	0.13	15.25	
33315.	9.04	1.35	0.19	9.59	
34395.	3.58	6.63	0.08	9.87	
34396.	11.76	4.82	0.22	15.76	
34397.	3.58	10.48	0.08	13.72	
34398.	10.13	4.65	0.16	13.89	
34399.	3.71	5.02	0.06	7.40	Salicylic acid.
34971.	7.10	15.57	0.16	22.05	
34973.	5.48	13.64	0.16	19.08	
Standard natural and manipulated.	12.20	12.60	0.40		
		2.60	0.20		

It has been already shown that the solids in apple juice, may vary from 11.20 to 16.86 per cent. Say from 11 to 17 per cent. Much suspicion must therefore attach to the following numbers, viz.: 31301, 31302, 22654, 35152, 35315, 34395 and 34399, on account of the low solids, and to 34971 and 34973, on account of the large amount of dissolved solid matters.

So much work has yet to be done upon cider before a definite pronouncement can be made as to its specific character and the extent of its variations, that I consider it best to leave the matter of final judgment in abeyance for the present; and beg to recommend that this report be published as Bulletin No. 169.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,  
Chief Analyst.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF NOVA SCOTIA—						
1908.						
Aug. 5	Cider .....	33526	J. W. Livingstone, Windsor N.S.	3 pts...	60	Annapolis Valley Cider Co., Bridgetown, N.S.
" 6	" .....	33527	J. S. Creed, Halifax, N.S.	3 " ..	30	" ..
" 6	" .....	33528	J. A. Crouse, Halifax, N.S.	3 " ..	30	Canadian Beverages' Co., Amherst, N.S.
" 6	" .....	33529	Jas. Roul, Halifax, N.S.	3 " ..	10	Vendor .....
" 8	" .....	33530	P. Connors, Halifax, N.S.	3 " ..	20	Annapolis Valley Cider Co., Bridgetown, N.S.
DISTRICT OF PRINCE EDWARD ISLAND—						
July 20	Cider .....	31301	James Kelly, Charlottetown.	3 pts. ..	20	Lennard Grant, agent, Charlottetown.
" 21	" .....	31302	P. A. Smith, Charlottetown.	3 " ..	20	Mills & Offices, Bridgetown, N.S.
" 30	" .....	31303	T. G. Jameson, Charlottetown.	3 " ..	50	Annapolis Valley Cider Co., Bridgetown, N.S.
Aug. 3	" .....	31304	J. A. Hynes, Kensington....	3 " ..	35	Canadian Beverage Co., Amherst, N.S.
" 4	" .....	31305	J. M. Noonan, Summerside .	3 " ..	30	G. E. Barbour Co., Ltd., St. John, N.B.
DISTRICT OF NEW BRUNSWICK—						
July 16	Cider .. ...	29733	W. A. Simonds, agent, 89 Union St., St. John, N.B..	3 bots .	30	Annapolis Valley Cider Co., Ltd., Bridgetown, N.S.
" 23	" (bulk)....	29734	F. E. Williams Co., Ltd., St. John, N.B.	3 " ..	20	Belleville Vinegar and Cider Co., Belleville, Ont., Can.
" 25	" (bottled)..	29735	Baird & Peters, St. John, N.B.	3 " ..	37	Annapolis Valley Cider Co., Ltd., Bridgetown, N.S.
Aug. 4	" .....	29736	W. B. McKay & Co., Sussex, N.B.	3 " ..	60	" ..
" 5	" (bulk)....	29737	A. H. Hodge, Moncton, N.B.	3 pts. ..	15	Canadian Beverages' Co., Amherst, N.S.

S=Sp. grav. of dealccoholized residue solids p. c. = 245 (S-1), U.S. Bureau of Chemistry Bull. 118



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CIDER.

Inspector's Report.	Specific Gravity of Cider.	Specific Gravity of Distillate.	Specific Gravity of Residue.	RESULTS OF ANALYSIS.								Remarks and Opinion of the Chief Analyst.
				Alcohol as proof spirit = Volume.	Total Solids.*	Ash.	Acidity calculated as acetic acid in per 100 c.	Polarization.		Cane Sugar by Weight.	Action with Fehling's Solution.	
								Direct.	Invert.			
R. J. WAUGH, INSPECTOR.												
.....	p. c. 1.0302	p. c. 0.9945	p. c. 1.0336	p. c. 6.84	p. c. 8.72	p. c. 0.15	p. c. 0.72	p. c. — 8.5 —	p. c. 8.8	None.	Colour removed.	
.....	1.0283	0.9942	1.0338	7.23	8.28	0.11	0.35	— 7.0 —	7.6			
Labelled Sparkling Anti-Rheumatic	1.0281	0.9941	1.0334	7.36	8.18	0.27	0.82	— 16.8 —	17.0			
Sold as Apple Cider taken from bottle.	1.0285	0.9939	1.0312	3.85	7.54	0.02	0.52	— 0.2 —	0.2			
Sample drawn from bulk.	1.0010	0.9922	1.0085	9.86	2.08	0.22	0.59	— 1.0 —	1.1			
T. MOORE, INSPECTOR.												
.....	1.0019	0.9956	1.0064	5.49	1.57	0.16	0.44	— 1.5 —	1.5	None.	Colour light	
.....	0.9998	0.9937	1.0061	7.87	1.49	0.19	0.36	— 0.2 —	0.2			
Land of Evangeline Brand Pure Cider	1.0317	0.9947	1.0369	6.58	8.94	0.07	0.63	— 8.8 —	8.9		No colour removed.	
.....	1.0252	0.979	1.0272	2.48	6.66	0.13	0.46	— 6.0 —	6.1		Colour light	Contains salicylic acid. Dyed with orange line dye.
This sample was sold as Orange Cider	1.0556	0.9975	1.0587	3.03	14.78	0.00	0.97	— 12.5 —	13.9		95 per cent. colour removed.	Orange color. Contains salicylic acid.
J. C. FERGUSON, INSPECTOR.												
Labelled Land of Evangeline Brand. Pure Cider.	1.0356	0.9953	1.0402	5.86	9.85	0.13	0.52	— 7.8 —	7.9	None.	Light colour	
Last year's stock. Purity & quality not guaranteed.	1.0063	0.9912	1.0155	11.21	3.80	0.30	0.75	+ 0.2	— 0.2			
Labelled Land of Evangeline Brand. Pure Cider.	1.0298	0.9948	1.0349	6.37	6.10	0.14	0.45	— 6.8 —	7.0		Colour light	
.....	1.0314	0.9949	1.0350	6.34	8.67	0.18	0.46	— 8.0 —	8.6	0.10		
Last year's product, would not guarantee purity or quality.	1.0294	0.9950	1.0301	6.22	7.37	0.25	2.58	— 4.5 —	4.6	None.		Volatile acid as acetic = 2.00. Contains salicylic acid.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF QUEBEC—

1908.						
July 16	Cidre Cham-pagne.	26476	Juste Jean, Baie St. Paul...	3 bots..	39	Elzear Fortier, Quebec.....
" 24	Cider .....	26492	Joseph Falardeau, 271 Rue St. Joseph, Quebec.	3 pts...	15	Langlois & Paradis, Quebec.
" 27	Duffys Apple Juice.	26499	Myrand & Pouilot, 70 Rue de la Couronne, Quebec.	3 bots..	75	Laporte & Martin, Montreal.
" 27	Apple Cider....	26500	Charle. S. Riverin, 55 Rue de la Couronne, Quebec.	3 " ..	29	C. T. Oregan, Palace St., Quebec.
" 27	Cidre de Pomme	34401	R. Grenier, 128 Rue du Pont, Quebec.	3 " ..	25	Langlois & Paradis, Quebec.

DISTRICT OF ST. HYACINTHE—

July 29	Apple Cider....	160	J. H. Rocheleau, St. Pie, Bagot.	3 bots .	45	F. Kinsella, Montreal .....
Aug. 3	" .....	161	J. W. Turcotte, Drummond-ville.	3 " ..	45	Not known.....
" 5	" .....	162	J. H. Bryant, Sherbrooke...	3 " ..	free	S. Allan, Norwich, Ont.....
" 11	" .....	163	P. Paul, Sorel.....	5 " ..	25	N. Berard, Sorel ... ..

DISTRICT OF MONTREAL—

July 21	Cider .....	32621	Chas. Gurd & Co., Ltd., Jurors St., Montreal.	3 bots ..	30	Vendors .....
" 21	" .....	32622	Robert Miller, 168 St. Maurice St., Montreal.	3 " ..	30	Vendor .....
" 21	" .....	32623	" .....	3 " ..	30	" .....

\* S=Sp. grav. of dealcoholized residue solids p. c. = 245 (S-1), U.S. Bureau of Chemistry, Bull. 118



SESSIONAL PAPER No. 14

CIDER.

Inspector's Report.	Specific Gravity of Cider.	Specific Gravity of Distillate.	Specific Gravity of Residue.	RESULTS OF ANALYSIS.								Remarks and Opinion of the Chief Analyst.
				Alcohol as proof spirit—Volume.	Total Solids.*	Ash	Acidity calculated as malic acid grm. per 100 cc	Polarization		Cane Sugar by Clerget.	Action with Fuller's Earth	
								Direct	Invert.			

E. BELAND, INSPECTOR.

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
	1.0441	0.9998	1.0447	None.	10.95	0.01	0.21	—	0.9	—	10.4	1.8490 p.c. colour removed
	1.0125	0.9923	1.0201	9.72	4.92	0.32	0.75	+	4.2	+	4.2	None. No colour removed
	1.0512	0.9998	1.0514	None.	12.39	0.19	0.71	—	18.2	—	18.2	1.04 Colour light
	1.0196	0.9922	1.0271	9.86	6.63	0.24	0.44	—	15.0	—	15.4	None.
	1.0034	0.9917	1.0117	10.24	2.86	0.29	0.81	+	1.0	—	0.2	0.22 No colour removed
												Contains benzoic ester.
												Contains salicylic acid.

J. C. ROULEAU, INSPECTOR.

Jubilee Apple Cider.	1.0205	0.9919	1.0284	10.26	6.96	0.25	0.53	—	17.6	—	17.8	None.	Light colour	Smell strongly of acetic ester
Pure Apple Cider.	1.0106	0.9916	1.0186	10.67	4.55	0.10	0.53	—	7.0	—	7.2			
Labelled Sweet Apple Cider, Mfg. by S. Allen, Norwich, Ont., & bottled by J. H. Bryant, Sherbrooke, Que.	1.0205	0.9923	1.0284	9.72	6.96	0.28	0.51	—	15.8	—	15.9		No colour removed	
Labelled Nap. Berard, cordon de pommes, Sorel, Que.	1.0275	0.9998	1.0277	None.	6.78	0.00	0.39	—	2.5	—	5.5	0.30		Odor of acetic ester.

J. J. COSTIGAN, INSPECTOR.

Labelled "Sparkling Apple Nectar."	1.0400	1.0000	1.0401	None.	9.82	0.00	0.21	—	9.6	—	9.8	None.	95 p.c. colour removed	
Labelled "Genuine Sparkling Apple Cider."	1.0037	0.9928	1.0110	9.04	2.69	0.11	0.40	—	4.0	—	4.4		Colour light	
Labelled "Royal Windsor Champagne Cider."	1.0168	0.9998	1.0169	None.	4.14	0.01	0.22	—	1.2	—	3.2	0.37	95 p.c. colour removed	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF MONTREAL—						
1908. July 22	Cider... . . . .	32624	Rowan Bros. & Co., Ltd., 3 bots.. Vallee St., Montreal.	30	Vendors . . . . .	
" 22	" . . . . .	32625	Robt. Allan, Dorchester St., 3 Montreal.	" .. 20	Vendor . . . . .	
DISTRICT OF OTTAWA—						
July 27	Cider . . . . .	22653	Bate & Co., Sparks St., 3 bots.. Ottawa.	35	Annapolis Valley Cider Co., Bridgetown, N.S.	
Aug. 12	" . . . . .	22654	Chevrier Bros., Cornwall, Ont. 1 qt . . . .	15	Allan, Norwich, Ont. . . .	
DISTRICT OF KINGSTON—						
July 20	Cider . . . . .	35265	James Redden, Princess St., 1 qt.... Kingston.	15	Whitby Fruit Vinegar Co., Whitby, Ont.	
" 22	" . . . . .	35266	Wallbridge & Clarke, Bridge 3 bots.. St., Belleville.	75	S. Allen, Norwich . . . .	
" 22	" . . . . .	35267	Belleville Fruit Vinegar, 3 " . Belleville.	10	Belleville Fruit Vinegar Co., Belleville.	
" 22	" . . . . .	35268	S. Fourt, Port Hope . . . . 1 qt . . . .	15	S. Allen, Norwich . . . .	
" 23	" . . . . .	35269	Avid Knox, Queen St., Peter- boro.	1 " .... 10	Vendor . . . . .	
DISTRICT OF TORONTO—						
Aug. 5	Refined Cider...	35149	Opera Quick Lunch Counter, 3 pts.. R. J. Gill, Prop., Hamilton.	15	S. Allen, Norwich . . . .	
" 8	Drinking " ..	35150	Whitby Fruit Vinegar Co., 3 " .. Whitby.	15	Vendors . . . . .	

\* S—Sp. grav. of dealcoholized residue. Solids p. c. =



## SESSIONAL PAPER No. 14

## CIDER.

Inspector's Report.	Specific Gravity of Cider.	Specific Gravity of Distillate.	Specific Gravity of Residue.	RESULTS OF ANALYSIS.								Remarks and Opinion of the Chief Analyst.
				Alcohol as proof spirit—Volume.	Total Solids.*	Ash.	Acidity calculated as malic acid grms. per 100 cc.	Polarization		Cane Sugar by Clerget.	Action with Fuller's Earth.	
								Direct.	Invert.			
J. J. COSTIGAN, INSPECTOR—Con.												
Labelled "Sparkling flavoured Apple Nectar."	1.0295	0.9996	1.0296	None.	7.25	0.00	0.14	— 0.4	— 5.4	0.23	90 per cent. removed	
Labelled "Sparkling Champagne Cider."	1.0225	0.9999	1.0227		5.56	0.01	0.20	+ 3.0	— 5.4	1.57		
J. A. RICKEY, INSPECTOR.												
Labelled "Land of Evangeline brand, Pure Cider."	1.0289	0.9947	1.0340	6.58	8.33	0.18	0.48	— 7.5	— 7.9	None	Light colour	
Taken from bulk. Sold as Apple Cider.	1.0126	0.9951	1.0175	6.10	4.28	0.27	0.80	+ 4.5	+ 4.5		No colour removed	Contains benzoic ester.
JAS. HOGAN, INSPECTOR.												
	1.0117	0.9943	1.0173	7.10	4.24	0.17	1.96	— 3.5	— 3.8	None.	Light colour	Volatile acid as acetic 1.47. Contains salicylic acid.
	1.0200	0.9918	1.0279	10.40	6.83	0.37	0.56	— 12.9	— 13.1			
	1.0116	0.9915	1.0201	10.81	1.92	0.33	0.93	+ 1.5	— 0.2	0.32		
	1.0025	0.9908	1.0117	10.81	2.86	0.20	0.69	— 2.2	— 2.4	None.		
Two years in stock.	1.0094	0.9998	1.0097	None	2.37	0.43	1.04	— 0.2	— 0.5		No colour removed	Volatile acid as acetic 0.72.
H. J. DAGER, INSPECTOR.												
	1.0138	0.9910	1.0225	11.49	5.51	0.23	0.67	— 9.8	— 10.4	0.10	No colour removed	
Vendor said sample was cured for drinking purposes, but had since gone hard; was using it for vinegar stock; had not sold any for drinking purposes for two months.	1.0136	0.9928	1.0202	9.04	4.95	0.26	0.56	+ 4.5	+ 4.5	None.	Colour light	Trace of salicylic acid.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF TORONTO—

1908.						
Aug. 12	Refined Cider ..	35151	Kemp Beverage Co., Toronto.	3 pts...	15	S. Allen, Norwich ....
" 13	Apple " ..	35152	S. Patterson & Co., 318 Berkeley St., Toronto.	3 " ..	15	Vendors .....
" 14	" " ..	35153	John Lorgo, 252 Queen St., Toronto.	3 " ..	15	S. Patterson & Co., 318 Berkeley St., Toronto.

DISTRICT OF WINDSOR—

Aug. 11	Cider .....	34587	A. Laddy, London ...	3 pts..	15	S. Allen, Norwich.....
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DISTRICT OF MANITOBA—

July 21	Cider ..	33177	Blackwood's, Ltd., Winnipeg.	3 bots..	30	Vendors .....
" 21	" ..	33178	" " ..	3 " ..	25	" .....
" 22	" ..	33179	Pelissiers & Sons, Winnipeg.	3 pts...	30	" .....
" 23	" ..	33180	E. L. Drewry, Winnipeg....	3 " ..	Nil	MacNab & Roberts, Winnipeg.
" 24	" ..	33181	Ed. Foran, Notre Dame Av., Winnipeg.	3 bots..	45	E. L. Drewry, Winnipeg ...

\* S=Sp. grav. of dealcoholized residue. Solids p.c.=245 (S-1) U.S. Bureau of Chemistry. Bull.



SESSIONAL PAPER No. 14

CIDER.

Inspector's Report.	Specific Gravity of Cider.	Specific Gravity of Distillate.	Specific Gravity of Residue.	RESULTS OF ANALYSIS.								Remarks and Opinion of the Chief Analyst.
				Alcohol as proof spirit—Volume.	Total Solids.*	Ash.	Acidity calculated as free acid in 100 cc.	Polarization		Cane Sugar by Clément	Action with Fehling's Solution.	
								Direct.	Invert.			

H. J. DAGER, INSPECTOR—Cider.

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
	1.0147	0.9913	1.0234	11.08	5.73	0.25	0.66	—12.5	—12.6	None.	Colour light.	
Sold as Apple Cider.	1.0233	0.9975	1.0254	3.03	6.22	0.03	0.50	—0.3	—1.3	0.20	p. c.	Contains salicylic acid.
	1.0244	0.9997	1.0248	None	6.07	0.00	0.48	—2.5	—5.5	0.56	95 p. c. colour removed	

J. TALBOT, INSPECTOR.

	1.0326	0.9965	1.0359	4.40	8.79	0.13	0.50	—7.8	—7.9	None.	No colour removed	
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A. C. LARIVIERE, INSPECTOR.

Apple Cider, Finest Sparkling Double Filtered.	1.0197	0.9924	1.0267	9.58	6.54	0.20	0.43	17.0	17.6	None	No colour removed	
Free from alcohol, possessing the full rich flavour of fresh fruit.	1.0330	0.9992	1.0343	0.93	8.40	0.02	0.60	—3.6	—5.2	0.30		Orange cider dyed with pink aniline dye, showing reaction for salicylic acid; considerable chlorides & sulphates present.
Apple Cider.												
" "	1.0123	0.9917	1.0218	10.54	5.34	0.28	0.54	—8.8	—10.4	0.30	Light colour	
The "Golden Key Brand," Orange Cider.	1.0617	0.9999	1.0622	None	15.24	0.01	0.55	+7.6	—17.0	4.39		Orange cider dyed with orange aniline dye contains salicylic acid; considerable chlorides and sulphates present.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF CALGARY—						
1908.						
Aug. 14	Cider .....	35311	Great West Liquor Co., Cal-gary.	3 pts...	30	S. Allen, Norwich, Ont.....
" 14	" .....	35312	Calgary Wine & Spirit Co., Calgary.	3 " ..	1 00	Symons & Co., London, Eng.†
" 14	" .....	35313	Macpherson Fruit Co., Cal-gary.	3 " ..	25	S. Allen, Norwich, Ont. ...
" 25	" .....	35314	Edmonton Wine & Spirit Co., Edmonton.	3 " ..	90	P. Saintier, Rouen, France..
" 25	" .....	35315	Little Gem Fruit Store, Ed-monton.	3 " ..	25	S. Allen, Norwich, Ont.....
DISTRICT OF VANCOUVER—						
July 29	Cider .....	34305	R. A. Crawford, 812 Pender St., Vancouver.	3 pts ..	30	Thorpe & Co., Vancouver..
" 29	" .....	34306	Hughes Bros., 102 Hastings St., Vancouver.	3 " ..	40	Meikle Bros. & Co., Van-couver.
" 29	" .....	34307	A. Emmanuel, Hastings St., Vancouver.	3 " ..	30	Cross & Co., Vancouver ...
" 29	" .....	34308	Wells & Co., Pender St., Vancouver.	3 " ..	35	Wells & Co., Vancouver....
" 30	" .....	34309	Thorpe & Co., Beatty St., Vancouver.	3 " ..	15	W. J. Savory, Victoria, B.C.
DISTRICT OF VICTORIA—						
July 29	Cider (boiled)...	34956	W. K. Houston & Co., Vic-toria.	3 bots ..	60	F. Savory, Victoria.....
" 23	" .....	34963	West End Grocery Co., Ltd., Victoria.	3 " ..	75	Brady Houston Packing Co., Victoria.

† Both samples broken.

\* S=Sp. grav. of dealcoholized residue solids p.c. 245 (S—1), U.S. Bureau of Chemistry, Bull. 118



SESSIONAL PAPER No. 14  
CIDER.

Inspector's Report.	Specific Gravity of Cider.	Specific Gravity of Distillate.	Specific Gravity of Residue.	RESULTS OF ANALYSIS.								Remarks and Opinion of the Chief Analyst.
				Alcohol as proof spirit Volume.	Total Solids.*	Ash.	Acidity calculated as lactic acid grms. per 100 cc.	Polarization		Grape Sugar by Claret.	Action with Fehling's Solution.	
								Direct.	Invert.			
R. W. FLETCHER, INSPECTOR.												
.....	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
.....	1.0001	0.9908	1.0089	11.76	2.18	0.15	0.84	- 0.2	- 0.2	None.	Colour light	Volatile acid as acetic = 0.39.
.....	1.0067	0.9933	1.0135	2.38	3.31	0.19	0.78	- 2.5	- 2.7		No colour removed	Volatile acid as acetic = 0.40. Contains salicylic acid.
.....	†											
.....	1.0196	0.9925	1.0271	9.45	6.63	0.13	0.62	- 5.2	- 5.3		No colour removed	
.....	0.9987	0.9928	1.0055	9.04	1.35	0.19	0.41	- 0.2	- 0.5		Colour removed	
J. F. POWER, INSPECTOR.												
.....	1.0235	0.9971	1.0271	3.58	6.63	0.08	0.82	- 0.5	- 4.1	0.67		
Marked "Pure Apple Cider."	1.0108	0.9908	1.0197	11.76	4.82	0.22	0.65	- 5.0	- 5.3	None.	Colour light	Volatile acid as acetic = 0.37.
.....	1.0391	0.9971	1.0428	3.58	10.48	0.08	1.30	- 0.7	- 8.8	1.51		
.....	1.0123	0.9920	1.0190	10.13	4.65	0.16	0.96	- 5.2	- 5.3	None.	Colour light	
.....	1.0180	0.9970	1.0205	3.71	5.02	0.06	0.64	- 1.8	- 1.8		No colour removed	Contains salicylic acid.
D. O'SULLIVAN, INSPECTOR.												
"Pure Boiled Cider."	1.1961	0.9993	1.1966	0.81	48.16	0.39	1.12	+ 11.2	+ 6.8	0.85		Total solids by drying grms. pr. 100 cc. = 51.28. Reducing sugar before inversion = 35.40. Reducing after inversion = 37.29.
.....	1.1923	0.9993	1.1996	0.81	48.90	0.46	1.12	- 8.4	+ 3.2	0.97		Total solids by drying = 51.42. Reducing sugar before inversion = 37.06. Reducing after inversion = 38.16.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF VICTORIA—

1908.						
Jnly 23	Cider (boiled)...	34967	W. B. Hall, Victoria. ....	3 bots..	75	Brady Houston Packing .Co, Victoria.
" 23	" . . . . .	34971	Dixi H. Ross & Co., Victoria	3 " ..	60	" " ..
" 29	" . . . . .	34973	W. K. Houston, Victoria. ...	3 " ..	55	F. Savory, Victoria. . . . .

\* S=Sp. grav. of dealcoholized residue solids p. c. = 245 (S-1), U.S. Bureau of Chemistry, Bull. 118 page 12.



SESSIONAL PAPER No. 14  
CIDER.

Inspector's Report.	Specific Gravity of Cider.	Specific Gravity of Distillate.	Specific Gravity of Residue.	RESULTS OF ANALYSIS.								Remarks and Opinion of the Chief Analyst.
				Alcohol as proof spirit—Volume.	Total Solids.*	Ash.	Acidity calculated as malic acid grs. per 100 cc.	Polarization		Cane Sugar by Clerget.	Action with Fehling's Earth.	
								Direct.	Invert.			

D. O'SULLIVAN, INSPECTOR—*Con.*

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
'Pure Boiled Cider.'	1.1982	0.9990	1.1985	1.16	48.63	0.43	1.11	+15.6	+4.4	2.17		Total solids by drying = 51.17. Reducing sugar before inversion = 35.38. Reducing sugar after inversion = 35.84.
Ontario cider, vendor stated that cider was pure as far as he knew.	1.0576	0.9943	1.0635	7.10	15.57	0.16	1.36	-10.1	-10.2	None	50 p.c. colour removed	Volatile acid as acetic = 0.91.
Champagne cider vendor said it was pure.	1.6490	0.9952	1.0557	5.98	13.61	0.16	1.52	-10.3	-10.3		80 p.c. colour removed	Volatile acid as acetic = 1.13.







SESSIONAL PAPER No. 14

## APPENDIX T.

## BULLETIN No. 170—BUTTER.

OTTAWA, December 23, 1908.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 295 samples of butter, collected throughout Canada in October and November last.

All samples have been examined as to content of water, the limit being fixed by the Butter Act at 16 per cent. The fat has been examined by the refractometric test; and wherever the indications seemed abnormally high, further examination has been made.

No foreign fats are present in any of these samples. Excess of water has been found in three samples from the Kingston District, viz. Nos. 36067, 36071 and 36072. The three samples in question are stated to be manufactured, or furnished by P. Downham, of Peterboro.

It is quite apparent the butter is essentially genuine and of high quality, as offered for sale in Canada.

I beg to recommend the publication of this report as Bulletin No. 170.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



BULLETINE No. 170. -BUTTER.

Date of Collection.	Name of Sample.	No. of Sample.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Cost.		Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.		Water.	Butyro-refractive Index No.	

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

Date.	No.	Name of Sample.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Cost.		Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.		Water.	Butyro-refractive Index No.	
Oct. 13	Butter.	33716	R. M. Fulton, Sydney, N.S.	1 lb.	28	J. T. Peardon, Sydney, N.S.	9 60	51 4	
"	"	33717	Balls Market, Sydney, N.S.	1 "	25	Unknown	7 26	52 0	Sold as country tub butter.
"	"	33718	W. A. Lavash, Sydney, N.S.	1 "	28	Smith & Proctor, Sydney, N.S.	8 56	53 2	Sold as dairy tub butter.
"	"	33719	W. H. Snook & Co., Truro, N.S.	1 "	28	A. V. Lyghtbody, Masstown, N.S.	13 56	54 1	Reichert value 28.0
"	"	33720	R. T. Creig & Co., Truro, N.S.	1 "	28	A. Brown, Stewiacke, N.S.	8 40	53 0	
"	"	33721	E. E. O'Brien & Co., Truro, N.S.	1 "	27	Unknown	7 46	52 2	
"	"	33722	J. H. Barss, Wolfville, N.S.	1 "	28	Mrs. King, Hontonville, N.S.	9 04	52 8	Sold as dairy roll.
"	"	33723	Jno. Snyder & Sons, Windsor, N.S.	1 "	25	Mrs. John Dill, Newport, N.S.	9 50	52 3	
"	"	33724	Wentworth Stores, Windsor, N.S.	1 "	22	Mrs. Davison, Chester Roads, N.S.	12 56	52 0	
"	"	33725	E. J. Lucas, Halifax, N.S.	1 "	27	B. H. Power, Halifax, N.S.	9 72	52 7	
"	"	33726	Jas. Hogan, Halifax, N.S.	1 "	28	Mrs. O'ready, Cape Breton.	4 36	52 8	Dairy tub.
"	"	33727	Jas. A. Leaman & Co., Branch 4, Halifax, N.S.	1 "	26	Nickerson & Hart, Halifax, N.S.	8 20	51 3	
"	"	33728	Rooney & Lovitt, Halifax, N.S.	1 "	26	Guays River, N.S., Supply Co.	6 56	52 4	
"	"	33729	P. T. Shea, Halifax, N.S.	1 "	27	Mr. Patterson, Hants Co., N.S.	7 22	52 9	
"	"	33730	Bentley & Layton, Halifax, N.S.	1 "	32	R. Fisher, Stewiacke, N.S.	8 40	52 8	



SESSIONAL PAPER No. 14

## DISTRICT OF PRINCE EDWARD ISLAND T. MOORE, INSPECTOR.

"	20	"	"	33731	E. Sanford, Halifax, N.S.	1 lb.	27	J. H. Bliss, Rawdon, N.S.	Sold as dairy tub.	10 82	52 6
"	21	"	"	33732	E. B. Tracy, Halifax, N.S.	1 lb.	25	J. C. Willard, Rawdon, N.S.	Sold as dairy butter.	9 10	52 3
"	21	"	"	33733	L. W. Dixon, Halifax, N.S.	1 lb.	28	Mrs. McPhee, Rawdon, N.S.	"	7 50	52 2
"	21	"	"	33734	T. Pearson & Co., Halifax, N.S.	1 lb.	25	Smith & Proctor, Halifax, N.S.	"	7 96	51 6
"	22	"	"	33735	S. Mott, Dartmouth, N.S.	1 lb.	26	A. Fraser, Gov., Hants Co.	Sold as tub butter.	5 10	52 0
Oct.	28	Batter.	"	31391	N. Penpraise, Victoria.	1 lb.	24	Mrs. Paul Charles, Tivon.	"	7 76	52 8
"	28	"	"	31392	O. B. Waldman, Capaul.	1 lb.	23	Mrs. E. McNail, Tivon.	"	7 80	51 4
"	30	"	"	31393	W. W. Walker, Charlottetown.	1 lb.	27	Wallace Wood, Lot 40.	"	10 50	50 5
"	31	"	"	31394	M. McLeod, Charlottetown.	1 lb.	25	J. A. Parpherson, Charlottetown.	"	11 58	51 4
Nov.	2	"	"	31395	James Kelly, Charlottetown.	1 lb.	24	Mrs. Traynor, Glen, Pictou.	"	5 10	51 9
"	2	"	"	31396	E. Toombs, Charlottetown.	1 lb.	26	Mrs. Toombs, Pictou. P. Ant Road.	"	8 90	51 5
"	4	"	"	31397	Jas. LaForty, Charlottetown.	1 lb.	24	Geo. Toombs, Charlottetown.	"	9 16	52 0
"	4	"	"	31398	John Ferguson, Charlottetown.	1 lb.	25	Mrs. H. Hume, M. P.	"	8 34	73 9 R rebut value 29 4
"	4	"	"	31399	Connelly, Bros., Charlottetown.	1 lb.	25	Mrs. Hickox, Wheatley River.	"	7 39	52 0
"	5	"	"	31400	Woodman Bros., Alberton.	1 lb.	24	P. Matthews, Charlott., M. P.	"	6 46	50 8
"	6	"	"	31401	J. J. Arsenault & Co., Tignish.	1 lb.	20	Not known.	"	7 56	51 5
"	6	"	"	31402	J. H. Myrick, Balony's Corner.	1 lb.	20	A. Des Roches, Lady Tignish.	"	8 84	51 0
"	6	"	"	31403	Mrs. Young & Wright, Summerside.	1 lb.	25	Wm. Anderson, St. John's.	"	12 00	51 8
"	7	"	"	31404	Wagh & Steeves, Summerside.	1 lb.	25	Not known.	"	9 00	51 2
"	7	"	"	31405	D. McKenzie, Kensington.	1 lb.	24	S. Jackson, Green, Pictou.	"	12 24	51 5
"	7	"	"	31406	Jas. Kennedy, Kensington.	1 lb.	24	Wesley Hensley, Charlott.	"	11 50	52 4
"	13	"	"	31407	Prowse & Son, Murray Harbour.	1 lb.	22	Not known.	"	9 10	53 2
"	14	"	"	31408	Prowse & Son, Murray River.	1 lb.	22	"	"	12 30	52 0



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Water.	Butyro refractometer No.	
DISTRICT OF PRINCE EDWARD ISLAND T. MOORE, INSPECTOR <i>Concluded.</i>										
1908.								p. c.	p. c.	
Nov. 14	Butter.	31409	Joseph McCabe, Iona . . . . .	1 lb . .	22	Mrs. Bremrie, Iona . . . . .	.....	10.40	52.8	
" 16	"	31410	J. F. McDonald, Belfast. ....	1 " . .	23	T. McKinnon, Orwell.....	.....	6.80	50.6	
DISTRICT OF NEW BRUNSWICK J. C. FERGUSON, INSPECTOR.										
Oct. 20	Butter.	29824	Robert McAfee, St. John, N.B. ....	1 lb . .	30	Geo. E. Barbour Co., Ltd., St. John, N.B. John, N.B.	From tub of butter on retail in vendor's store.	8.40	52.0	
" 20	"	29825	Edward Walsh & Co., St. John, N.B. ....	1 " . .	30	A. B. Camp, Humphrey's Land- ing, N.B.	From 15 lb. tub on retail in vendor's store.	9.96	52.7	
" 20	"	29826	John V. Holland, St. John, N.B. ....	1 " . .	30	Thomas Gorman, St. John, N.B.	"	7.40	53.0	
" 22	"	29827	M. E. Grass, St. John, N.B. ....	1 " . .	32	James Schofield, St. John, N.B.	Canadian creamery butter, sold without guarantee of purity.	12.50	52.6	
" 22	"	29828	H. M. Floyd, St. John, N.B. ....	1 " . .	30	T. Whitcolpitts, Forest Glen, Country store, N.B.	Country store butter . . . . .	11.06	53.2	
" 22	"	29829	P. M. Case, St. John, N.B. ....	1 " . .	32	Case Vanwart, St. John's River, Wickham, N.B.	Tub butter . . . . .	8.92	52.4	
" 22	"	29830	William Baxter, St. John, N.B. ....	1 " . .	30	J. F. Reirstead, St. John, N.B.	"	8.40	52.4	
Nov. 5	"	29831	Sussex Mercantile Co., Ltd., Sussex, N.B. ....	1 " . .	30	Sussex Mercantile Co., Ltd, Elgin, Farmers butter, N.B.	.....	11.24	52.9	
" 5	"	29832	S. L. Shocton, Petitcodiac, N.B. ....	1 " . .	25	Miles Alward, Enternut Ridge, N.B.	.....	12.56	52.0	
" 6	"	29733	Simon Melanson, Moncton, N.B. ....	1 " . .	28	Philip P. Leblanc, Notre Dame, N.B.	.....	10.56	53.0	
" 6	"	29834	George Stables, Newcastle, N.B. ....	1 " . .	30	Thos. Dignan, Prince Edward Island.	.....	14.08	52.0	



"	10	"	"	29835	D. S. McLachlan, Chatham, N.B.	1 lb.	28	Harris Abattoir Co., Toronto, Ont.	Dairy butter	8 40	50 29
"	11	"	"	29836	W. J. Kent & Co., Ltd., Bathurst N.B.	1 lb.	22	Not known	Tub butter	10 18	52 1
"	12	"	"	29837	E. J. Allingham, Campbellton, N.B.	1 lb.	28	Samuel Laughlin, Black Pond, N.B.	"	9 26	53 4
"	12	"	"	29838	F. S. Titus, Campbellton, N.B.	1 lb.	27	William Howiston, Black Cape, P.Q.	"	7 06	52 0
"	18	"	"	29839	W. R. Logan, Fredericton, N.B.	1 lb.	30	John Hegerman, Keswick, N.B.	"	8 16	50 1
"	19	"	"	29840	John Graham Estate, Woodstock, N.B.	1 lb.	27	E. Marston, Northampton, N.B.	Country dairy	11 56	51 5
"	21	"	"	29841	H. N. Dickinson, Perth, N.B.	1 lb.	28	James Lam, Perth, N.B.	"	10 26	50 0
"	21	"	"	29842	Geo. H. De Witt, Andover, N.B.	1 lb.	25	Mrs. Geo. Murgerson, Ford Falls, N.B.	"	9 16	52 0
"	23	"	"	29843	J. L. White, Grand Falls	1 lb.	25	Mrs. Paul Martin, St. Andre Parish, N.B.	"	7 92	53 4

DISTRICT OF QUEBEC—E. BELAND, INSPECTOR.

Oct.	10	Butter.	34429	Arthur Caron, Trois Simeon	1 lb.	25	Abelard Leclerc, St. Jean, P.Q.		6 60	52 3
"	16	"	34454	Emile Allard, L'Islet	1 lb.	27	Ferdinand Thibault, L'Islet		10 16	52 6
"	17	"	34461	Eugene Motiver, St. Cyrille	1 lb.	26	Eugene Motiver, St. Cyrille		13 13	51 3
"	20	"	34464	Napoleon Bouchard, Kamouraski,	1 lb.	27	Louis Chevalier, St. Paschal		10 20	53 0
"	21	"	34465	Thade Thernault, Riviere du Loup	1 lb.	26	Unknown		8 44	52 4
"	21	"	34466	L. H. Lavasseur, Riviere du Loup.	1 lb.	28	A. A. Nickel, St. Simon.	Not labelled	10 00	52 0
"	21	"	34469	A. E. Thivierge, Riviere du Loup.	1 lb.	30	J. B. Renard & Co., Quebec		7 40	53 25
"	21	"	34470	A. Rebeaume, Riviere du Loup	1 lb.	27	Unknown		6 06	51 9
"	21	"	34471	V. Deveau, Riviere du Loup	1 lb.	25	Theophile Senechal, St. Hubert		8 58	52 4
"	21	"	34472	Martin Dammien, Riviere du Loup.	1 lb.	28	Unknown		8 62	53 3
"	21	"	34474	Joseph Viel, Riviere du Loup	1 lb.	30	Extres Kurock, St. Anthony		8 50	52 5
Nov.	5	"	34483	Francois Boisson, Tadoussac	1 lb.	25	Isidore St. Jean, L'Ange, St. Jean		11 26	52 0
"	6	"	34485	Aimée Belly, St. Simeon	1 lb.	25	Martin Joseph Tremblay, St. Simeon.		7 76	53 8 Reichart value
"	6	"	34486	Cyrille Arvey, Port au Port.	1 lb.	25	Vendor		10 86	52 7



BULLETIN No 170—BUTTER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.		Water.	Butyro-refrac. Index No.	

DISTRICT OF QUEBEC—E. BELAND, INSPECTOR *Concluded.*

1908.									
Nov.	9	Butter.	34488 Alfred Larouche, Murray Bay.	1 lb.	28	J. B. Reneaud & Cie, Quebec.	p. c. 10 10	p. c. 52 2	
"	9	"	34490 Elzar Larouche, Murray Bay.	1 "	25	Francois Goudreau, St. Agnès.	4 70	52 9	
"	9	"	34493 Paschal Rochette, Rivière Mailloux.	1 "	28	J. B. Reneaud & Cie, Quebec.	14 10	52 8	
"	9	"	34494 Jos. Brassard, Murray Bay	1 "	28	Ferdinand Perron, Cap ou Oies.	7 90	52 2	
"	10	"	34498 Jos. Couturier, Murray Bay.	1 "	30	Emile Côté, Montmagny	12 20	52 1	
"	12	"	34500 George Bouchard, St. Irène	1 "	25	Joseph Gauthier, St. Pierre.	6 56	51 7	
"	12	"	36801 H. Perron, St. Irène	1 "	25	Unknown	12 80	54 3	Reichert value 22 6

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

Oct.	8	Butter.	859 T. A. Wood & Co., Montreal.	1 lb.	26	Whyte Packing Co., Montreal	14 80	52 1	
"	8	"	860 Mongeau frères, Montreal.	1 "	24	Oliver, Dorion & Stroud, Montreal.	9 22	52 2	
"	9	"	861 T. Elliott, Montreal	1 "	15	..... This butter is from different tubs and not in shape for sale as good cooking butter.	7 90	50 6	
"	9	"	862 S. L. Nathanson, 256 Cadieux St., Montreal.	1 "	28	Gilmore Bros., Rosemore.	15 20	50 7	
12	"	"	863 Alph. Clement, St. Agathe des Monts.	1 "	25	Mr. Forget, St. Adolphe	9 28	51 6	



No.	Name	Address	Age	Sex	Color	Markings	Remarks
864	E. Laent, St. Jerome	St. Jerome	1	o			Not known
865	O. Chouaher & fils, Joliette	Joliette	2	p	ts		
866	J. B. Lefebvre, St. Herve de 1 lb	Blainville					
867	H. Robert, Beauvillage Langeue 1 o	Pont					
868	Jos. Dubois, 551 Notre Dame, 1 o	Maisonneuve					
869	Arthur Dupont, 767 Ontario St., 1 o	Maisonneuve					
870	Jas. Duncan, Lacbanc, 1 o						
871	N. Corbel, Saint Roch, 1 o						
872	E. Oliver, Montreal						
873	Primeau freres, Valleyfield						
874	N. Fortane, Bonsecours Market, 1 o	Montreal					
875	T. L. Rolland, Bonsecours Mar 1 o	Montreal					
876	Adin & Co, Marche St. Louis 1 o	Montreal					
877	J. E. O'Brien, Marche St. Louis 1 o	Montreal					
878	C. Lariviere, Marche St. Louis 1 o	Montreal					

DEPARTMENT OF COMMERCE

Oct.	9	Butter.	32756 Couture & Moore, Sherbrooke	1 lb.	25	Not given	8	72	32
"	"	"	32757 Royer & Pissette, Sherbrooke	1 "	20	J. E. Gibson, Beaufort, P. Q.	8	20	32
"	"	"	32758 D. W. Stinson, Sherbrooke	1 "	25	Not given	6	00	32
"	"	"	32759 Bernard & Co., Sherbrooke	1 "	25	"	7	32	32
"	13	"	32760 R. O. Brebion, Ste. Hyacinthe	1 "	26	J. B. Gervais, Ste. Rose, P. Q.	0	20	32
"	13	"	32761 A. Lussier, Ste. Hyacinthe	1 "	25	A. Gervais, Ste. Rose, P. Q.	11	70	32
"	15	"	32762 J. E. Gauthier, Thetford Mines	1 "	20	J. B. Renard, Quebec	8	30	32
"	15	"	32763 Louis Robert, Thetford Mines	1 "	25	J. Labrecque, Thetford Mines, P. Q.	11	08	33



BULLETIN No. 170—BUTTER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.		Water.	Butyro-refrac- tometer No.	
DISTRICT OF MONTREAL, J. J. COSTIGAN, INSPECTOR—Concluded.									
1908.							P. C.	P. C.	
Oct. 15	Butter.	32764	White & Wiggot, Lennoxville.	1 lb.	28	Eastern Townships Dairy Produce Co.	8.24	51.8	
" 16	"	32765	James McCoy, Danville.	1 "	25	A. Rosseau, Shipton, P.Q.	13.52	52.5	
16	"	32766	F. N. Gibson, Danville.	1 "	30	J. A. McCallum, Shipton, P.Q.	9.30	52.5	
" 19	"	32767	A. E. D'Artois & fils, Farnham.	1 "	28	Alexis Delage, Megantic, P.Q.	14.50	52.5	
" 19	"	32768	J. A. Menard, Farnham.	1 "	28	Not given.	12.28	52.4	
" 19	"	32769	P. Laroche, Farnham.	1 "	28	J. H. Archambault, Rapid River.	10.14	52.3	
" 20	"	32770	N. Tallifer, Granby.	1 "	30	Not given.	11.46	52.3	
" 20	"	32771	Isabelle & Rivet, Granby.	1 "	30	Shefford Mountain Creamery.	9.54	52.5	
" 20	"	32772	M. Mercure & fils, Granby.	1 "	30	C. Dussault, Granby, P.Q.	10.60	52.1	
" 20	"	32773	C. Vincent, Granby.	1 "	30	Not known.	7.40	52.9	
" 20	"	32774	H. L. M. Vaudry, Waterloo.	1 "	28	Wm. Murray, Waterloo, P.Q.	11.46	52.1	
" 20	"	32775	Auguste, Hebert, Waterloo.	1 "	28	Geo. Robb, Warden, P.Q.	8.80	52.8	
DISTRICT OF OTTAWA—J. A. RICEY, INSPECTOR.									
Sept. 30	Butter.	22708	McCuig, Cheney & Co., Vankleek Hill.	1 lb.	28	Mrs. Sharpe, Vankleek Hill.	10.40	53.0	
" 30	"	22709	Cameron & Downing, Vankleek Hill.	1 "	27	Mrs. R. Munter, Vankleek Hill.	5.20	51.9	



SESSIONAL PAPER No. 14

Oct.	3	Butter.	22710	Jas. L. P. Sanders, Kemptville.	1 lb.	25	Farmer	9-96	52-0
"	6	"	22711	W. West, Almonte	1 "	25	"	12 58	52 0
"	9	"	22712	Michael Vice, Renfrew	1 "	25	Not known	7 40	52 1
"	9	"	22713	E. D. Osborne, Arnprior	1 "	28	"	6 40	53 0
"	12	"	22714	Mrs. P. Brankin, Ottawa	1 "	28	Farmer	8 14	52 0
"	12	"	22715	Eustache Gougeon, Ottawa	1 "	28	Pie-luan, Ottawa	11 70	51 0
"	12	"	22716	S. Diamond, Ottawa	1 "	26	J. Pie-luan, Ottawa	8 00	52 5
"	12	"	22717	H. Racine, Ottawa	1 "	25	Lerner & Moynihan, Ottawa	9 30	53 6
"	13	"	22718	Carrière Bros., Ottawa	1 "	29	"	9 70	51 5
"	13	"	22719	J. L. McMullen, Ottawa	1 "	29	J. Pie-luan, Ottawa	12 46	51 6
"	13	"	22720	Mrs. P. Shattory, Ottawa	1 "	26	Lerner & Moynihan, Ottawa	8 10	53 5
"	13	"	22721	John Baxter, Ottawa	1 "	29	"	10 46	52 9
"	13	"	22722	J. M. Dowdall, Ottawa	1 "	28	J. Pie-luan, Ottawa	13 70	52 0
"	13	"	22723	Wm. York, Ottawa	1 "	29	Lerner & Moynihan, Ottawa	9 56	52 5
"	10	"	22767	J. E. Cook, Winchester	1 "	30	Adl. Bros., Winchester	8 04	52 0
"	14	"	22768	J. H. McKeen, Ottawa	1 "	29	Farmer	7 10	52 6
"	14	"	22769	Lanthier Bros., Ottawa	1 "	28	Lathovick & Doerst, Ottawa	5 68	50 9
"	14	"	22770	Mrs. May, Ottawa	1 "	28	Not known	4 74	53 0

## DISTRICT OF KINGSTON

Nov.	3	Butter.	30056	H. Gordon, Cobourg	1 lb.	23	J. Cullen, Cobourg	13 73	50 7
"	3	"	30057	F. Roseman, Port Hope	1 "	25	Not known	10 76	52 5
"	3	"	30058	J. Curtis, Port Hope	1 "	30	H. A. McIntosh, Port Hope Falls	8 76	52 9
"	4	"	30059	A. C. Babcock, Lindsay	1 "	35	J. McDell, Gorm	14 50	53 5
"	4	"	30060	F. A. Fisher, Lindsay	1 "	30	M. J. Lewis, Lindsay	8 50	51 2



BULLETIN No. 170—BUTTER.

Date of Collection.	Name of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	(Cents)		Water.	Butyro-refrac- tometer. Index No.	

DISTRICT OF KINGSTON JAS. HOGAN, INSPECTOR—Concluded.

1908.							p. c.	p. c.	
Nov.	4	Butter.	36061 W. M. Robson, Lindsay	1 lb.	30	M. J. Lewis, Lindsay	8.70	52.5	
"	4	"	36062 Adam Bros., Lindsay	1 "	30	"	9.92	53.0	
"	4	"	36063 J. Flurey, Lindsay	1 "	27	Edwin Mark, Little Britain	10.96	52.3	
"	4	"	36064 J. Brown, Lindsay	1 "	27	J. Pound, Little Britain	10.08	53.5	
"	4	"	36065 W. E. Baker, Lindsay	1 "	27	Not known	9.30	52.7	
"	4	"	36066 J. Campbell, Lindsay	1 "	30	M. J. Lewis, Lindsay	8.40	53.0	
"	4	"	36067 H. L. Burnham, Peterboro	1 "	30	P. Downham, Peterboro	16.62	52.7	
"	4	"	36068 J. H. Heol, Peterboro	1 "	30	Leoneville, Ont.	10.40	52.5	
"	4	"	36069 H. Bradshaw, Peterboro	1 "	27	Dabbin, Peterboro	10.38	51.7	
"	4	"	36070 A. J. Warne, Peterboro	1 "	30	Sothworth Bros., Hawood	11.36	53.5	
"	4	"	36071 T. G. Robinson, Peterboro	1 "	30	P. Downham, Peterboro	18.52	53.0	
"	4	"	36072 R. P. Carey, Peterboro	1 "	39	"	17.10	51.9	
"	4	"	36073 J. R. Bell, Peterboro	1 "	30	M. J. Lewis, Lindsay	9.54	52.1	
"	4	"	36074 Mason Co., Peterboro	1 "	28	Mrs. Hawedm	8.90	50.7	
"	4	"	36075 J. Sutherland, Peterboro	1 "	30	Mrs. Blakley, Hawood	10.86	52.0	



## SESSIONAL PAPER No. 14

## DISTRICT OF TORONTO—H. J. DAGHER, INSPECTOR.

	1908.						P.C.	P.C.
Oct. 12	Butter.	36101	Marlows & Latimer, Durham.	1 lb.	21	Mrs. W. J. McFallen, Durham P.O.	9 86	52 3
" 13	"	36102	James Whitehead, Walkerton.	1 lb.	21	Not known.	10 30	52 5
" 13	"	36103	Neil McCollavry, Port Elgin.	1 lb.	25	A. McKinnon, Port Elgin P.O.	8 74	52 5
" 14	"	36104	James Hyde Passey.	1 lb.	25	Mrs. J. Alexander, Passey.	8 60	53 4
" 14	"	36105	Elliot & Lambert, Mulhargy.	1 lb.	30	Mrs. David Hunter, Mulhargy.	9 56	53 4
" 15	"	36106	Ross & Warrington, Chesley.	1 lb.	20	Not known.	7 14	54 9
" 16	"	36107	D. A. McLean, Owen Sound.	1 lb.	25	Mrs. Geo. Reid, Owen P.O.	5 66	53 4
" 19	"	36108	C. T. Davis, Stoddville.	1 lb.	25	Mrs. J. H. Hill, Stoddville.	7 80	52 0
" 19	"	36109	T. B. Rime, Mulhargy.	1 lb.	25	W. Rime, Mulhargy.	8 20	54 0
" 20	"	36110	Thompson & Chesley, Walkerton.	1 lb.	25	Not known.	12 26	54 2
" 21	"	36111	C. C. Padua, Toronto.	1 lb.	25	J. J. Padua, Toronto.	11 40	52 2
" 21	"	36112	Geo. J. Bonniot, Toronto.	1 lb.	30	The Morgan Supply Co., Toronto, Ontario.	7 28	53 5
" 21	"	36113	Thos. Henderson, Glenora.	1 lb.	30	A. Henderson.	14 20	52 8
" 22	"	36114	Phil. White, Toronto.	1 lb.	25	F. P. Bonniot, Walkerton, P.O.	9 12	54 4 Recd. at value 25 9
" 22	"	36115	M. Ferguson, Hamilton.	1 lb.	25	F. H. Bailey, Port Elgin, P.O.	9 20	50 0
" 22	"	36116	J. Ross, Hamilton.	1 lb.	25	Not known.	11 20	52 5
" 22	"	36117	J. Lowrie, Hamilton.	1 lb.	25	J. H. Bailey, Stoddville, P.O.	12 34	54 5
" 22	"	36118	E. H. Young, Hamilton.	1 lb.	25	Not known.	8 96	51 4
" 23	"	36119	A. McArthur, Hamilton.	1 lb.	25	Not known.	8 06	52 4
" 24	"	36120	E. K. Seely, Hamilton.	1 lb.	30	J. A. Seely, P.O.	9 84	52 5



BULLETIN No. 170—BUTTER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Water.	Butyro-refractometer Index No.	
DISTRICT OF LONDON—T. KIDD, INSPECTOR, AND J. TALBOT, ACTING INSPECTOR.										
Oct. 7	Butter.	30506	D. Cameron, Listowell.	1 lb.	20	Mrs. Shandy, Wallace Township.	.....	p. c. 6.22	p. c. 53.0	
" 8	"	30513	Mathew Williams, Seaforth.	1 "	22	Mrs. Parsens, Hullet Township, Huron Co.	.....	10.20	52.2	
" 12	"	30517	William T. O'Neil	1 "	22	Mrs. Jno. Cartright, Hullet Township.	.....	10.76	53.1	
" 15	"	30523	Pickard & Flemings, St. Mary's	1 "	30	St. Mary's Creamery Co., St Mary's.	.....	6.88	52.2	
" 15	"	30525	F. W. Hutton, St. Mary's.	1 "	24	Mrs. Wm. Bailey, St. Mary's.	.....	8.62	51.7	
" 15	"	30527	White Packing Co., Stratford.	1 "	25	Mrs. Parker, Ellis Township	.....	8.42	52.1	
" 15	"	30529	McGulley & Haugh, Stratford.	1 "	25	Daniel Turiff, Ellis Township.	.....	14.90	51.5	
" 15	"	30536	J. A. Monteath, Stratford	1 "	25	Not known.	.....	8.30	52.3	
" 15	"	30540	Mrs. N. A. Coppin, Mitchell.	1 "	22	"	.....	4.10	52.7	
" 21	"	30549	Mrs. W. D. Geo.	1 "	25	Mrs. Stewart, Fullerton Town-ship.	.....	7.96	52.5	
" 5	"	30981	P. T. Dean, Goderich.	1 "	22	Mrs. Rundle, Goderich Township	.....	6.94	52.2	
" 5	"	30485	M. Allen, Goderich.	1 "	22	Mrs. Fulford, Colbourne Town-ship.	.....	10.50	52.1	
" 6	"	30997	William Patterson, Wingham.	1 "	21	Not known.	.....	7.04	53.0	
Nov. 12	"	34701	Jno. H. Laird, Galt.	1 "	28	Farmers.	.....	12.16	52.2	
" 13	"	34695	E. Inglehart, Guelph	1 "	28	"	.....	12.46	51.7	
" 13	"	34696	S. E. Wiggins, Guelph	1 "	28	"	.....	8.26	50.7	



13	"	34697	Jas. Gow, Guelph.	1 "	28	"	11 16	51 4
"	14	34700	Fury & Thompson, Woodstock	1 "	27	"	8 36	51 6
"	14	34703	F. C. Tat, Woodstock	1 "	28	"	12 46	51 0
DISTRICT OF WINDSOR. J. TALBOT, INSPECTOR.								
1908.	Oct.	7	Butter.	1 lb.	26	W. O. Reeves, Hyde Park.	9 30	53 "
"	"	8	"	1 "	27	W. Moralee, Market House, London.	6 66	52 1
"	"	8	"	1 "	28	Farmer	9 96	52 2
"	"	8	"	1 "	26	S. Leemis, Park Hill	5 00	51 1
"	"	8	"	1 "	27	Ferguson & Son, London	5 04	51 2
"	14	"	"	1 "	22	Farmer	7 40	52 1
Nov.	10	"	"	1 "	30	"	10 80	50 6
"	10	"	"	1 "	28	"	11 64	52 8
"	10	"	"	1 "	28	Not known	10 20	52 8
"	10	"	"	1 "	29	Western Dairy and Provision Co., St. Thomas	11 92	52 5
"	10	"	"	1 "	29	"	14 20	52 7
"	10	"	"	1 "	28	Farmer	10 90	52 0
"	19	"	"	1 "	25	E. Coleman, N. Bedford	11 36	53 2
"	19	"	"	1 "	24	Farmer, London Market	9 24	53 0
"	19	"	"	1 "	25	Mrs. Whiteman, Cornwall	12 58	52 5
DISTRICT OF MANITOBA. A. C. LARIVIERE, INSPECTOR.								
Nov.	5	Butter.	35765 J. Brown & Co., Neepawa.	1 lb.	25	Geo. Wyle, Neepawa, Man.	9 60	51 9
"	5	"	35766 Trett & Co., Neepawa.	1 "	25	Mr. Griffith, Neepawa, Man.	9 30	52 2
"	6	"	35767 S. Scholady, Gladstone	1 "	25	Jas. Carmichael, Gladstone, Man.	10 04	52 3



BULLETIN No. 170—BUTTER.

Date of Collection.	Name of Sample.	No. of Sample.	Name and Address of Vendor.	Quantity.	Cost.	Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
								Water.	Butyro-refractometer.	
DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR—Concluded.										
1908.								p. c.	p. c.	
Nov. 10	Butter.	35768	Robinson & McAvoy, Boissevain	1 lb.	20	Lindsay Harmon, Boissevain	.....	9.38	52.2	
" 10	"	35769	T. N. Hughes, Boissevain	1 " "	25	Mrs. Sam Oke, Boissevain	.....	10.04	51.2	
" 11	"	35770	Marquis & McCullough, Killarney.	1 "	20	William Ditchfield, Killarney.	.....	10.16	52.3	
" 11	"	35771	Squair & Rollins, Killarney	1 "	20	Not given	.....	9.98	52.0	
" 12	"	35772	B. Tobias & Co., Morden.	1 " "	25	Mrs. Stewart, Morden, Man.	.....	9.56	52.1	
" 12	"	35773	Rosen & Korman, Morden	1 " "	25	Not given	.....	10.80	51.3	
" 12	"	35774	D. Robinovitch, Morden	1 " "	20	Jacob Gerzon, Morden, Man	.....	11.26	53.5	
" 16	"	35775	J. L. McCosh, Souris	1 " "	25	Mrs. Lovitt, Souris	.....	7.52	51.8	
" 16	"	35776	J. A. Moore, Souris.	1 " "	25	Not given	.....	10.00	51.0	
" 18	"	35777	H. Lobe, Brandon	1 " "	25	J. V. Griffin Co., Brandon	.....	12.86	51.7	
" 19	"	35778	S. Calvert, Treherne	1 " "	25	Not given	.....	10.40	51.0	
" 19	"	35779	Wm. Dickson, Holland	1 " "	25	"	.....	8.46	51.4	
" 20	"	35780	W. L. Campbell & Co., Carman	1 " "	25	"	.....	7.86	52.0	
Dec. 8	"	35781	The Vopni Sigurd Sen, Ltd., Winnipeg.	1 " "	35	H. Tyler, Stonewall	.....	9.24	51.8	
" 9	"	35782	H. A. Webb, Elmwood P.O., Winnipeg.	1 " "	30	Dingle & Stewart, Winnipeg	Jersey Cream Butter	21.52	52.0	
" 11	"	35783	J. Paterson, Winnipeg.	1 " "	30	Not given	.....	10.86	52.0	
" 11	"	35784	Coyle Bros., Winnipeg	1 " "	25	"	.....	8.76	52.0	



DISPERSEMENT OF CALGARY - R. W. PLATTNER, INSPECTOR.									
Nov. 16	Butter.	35456	Hudson Bay Co., Calgary. ....	1 lb. ...	45	A. S. Blackwood, Dawson City.	9 16	51 9	
"	"	35457	D. McInnes Co., Ltd., Montreal. ....	1 lb. ...	50	Edmund J. Sullivan, Calgary.	6 80	51 5	
"	"	35458	Stewart & Twiss, Montreal. ....	1 lb. ...	50	Mr. McInnes, Dawson City.	6 90	51 4	
"	"	35459	H. Morrison, Montreal. ....	1 lb. ...	50	A. W. Plummer, Dawson City.	4 80	51 0	
Dec. 7	"	35460	P. P. Switzer, London. ....	1 lb. ...	25	Campbell & Thompson, London.	5 92	52 0	
"	"	35461	Campbell & Thompson, London. ....	1 lb. ...	25	London.	12 24	52 6	
"	"	35462	A. Campbell Co., Ltd., London. ....	1 lb. ...	25	London.	9 70	52 0	
"	"	35463	W. R. Lord Co., London. ....	1 lb. ...	25	A. D. Watson, London.	12 92	52 9	
"	"	35464	Star Trading Co., London. ....	1 lb. ...	25	London.	10 70	53 0	
"	"	35465	Campbell & McInnes, London. ....	1 lb. ...	25	W. R. Lord Co., London.	10 60	51 8	
"	"	35466	Rowell, Brown & Co., Ltd., London. ....	1 lb. ...	25	London.	9 16	53 0	
"	"	35467	Edinburgh Trading Co., London. ....	1 lb. ...	25	London.	11 56	50 7	
"	"	35468	O. H. Johnson, Vancouver. ....	1 lb. ...	25	London.	11 56	51 2	
"	"	35469	J. J. J. H. McInnes & Co., Vancouver. ....	1 lb. ...	25	Edinburgh Co. Ltd., London.	8 06	51 9	
"	"	35470	C. C. Thompson, London. ....	1 lb. ...	25	Mr. Plummer, Dawson City.	12 74	51 4	
"	"	35471	Campbell & Thompson, London. ....	1 lb. ...	25	London.	7 78	52 5	
"	"	35472	Duncan Brown & Co., London. ....	1 lb. ...	25	London.	7 90	51 2	
"	"	35473	Ames Co., London. ....	1 lb. ...	25	London.	7 80	52 2	
"	"	35474	Hudson Bay Co., London. ....	1 lb. ...	25	London.	7 60	52 0	
"	"	35475	Campbell McInnes Co., London. ....	1 lb. ...	25	London.	12 90	52 6	
DISPERSEMENT OF VANCOUVER - R. W. PLATTNER, INSPECTOR.									
Dec. 14	"	35481	N. A. B. Co., Vancouver. ....	1 lb. ...	25	Mr. Plummer, Dawson City.	7 02	52 5	
"	"	35482	Hughes & Co., Vancouver. ....	1 lb. ...	25	N. A. B. Co., Vancouver.	7 18	52 6	



BULLETIN No. 170—BUTTER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
				Quantity.	(Cents.			Water.	Butyro-refrac-tometer Index No.	

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR—Concluded.

1908.										
Oct. 15	Butter.	37503	J. Foran, Vancouver.	1 lb.	35	Kelly, Douglas & Co., Vancouver		p. c.	p. c.	
"	"	37504	F. Fillion, Vancouver.	1 "	30	Parson & Haddick, Vancouver.		8.32	51.6	
"	"	37505	Varse & Morse, Vancouver.	1 "	25	Vancouver Dairy Co., Vancouver		6.00	53.5	
"	"	37506	Labelle & Co., Vancouver.	1 "	30	Parson & Haddick, Vancouver.		6.60	53.4	
"	"	37507	London Grocery, Vancouver	1 "	30	Not known.		4.74	52.5	
"	"	37508	W. Houston, Vancouver	1 "	30	Vancouver Dairy Co., Vancouver		12.72	52.3	
"	"	37509	Vancouver Poultry Supply Co., Vancouver.	1 "	25	Riggs & Wright, Alberta.		8.66	50.7	
"	"	37510	Reid & Millar, Vancouver.	1 "	25	Vancouver Dairy Co., Vancouver		14.46	51.7	
"	"	37511	J. A. Dickie, Vancouver.	1 "	30	Not known.		13.32	51.8	
"	"	37512	C. Turner, Vancouver	1 "	25	A. H. Pratt, 3 Hills, Alberta.		9.46	51.6	
"	"	37513	W. H. Malkin & Co., Vancouver	1 "	30	Not known.		9.94	51.9	
"	"	37514	J. Y. Griffin & Co., Vancouver.	1 "	25	Cold Spring Dairy Co		12.50	52.0	
"	"	37515	J. W. Abercrombie, Westminster Road.	1 "	30	Vancouver Dairy Co., Vancouver		12.40	52.0	
"	"	37516	W. F. C. Pullock, Hill Crest.	1 "	25	M. Erwin		5.96	52.0	
"	"	37517	Hutchinson & Co., Hill Crest.	1 "	30	Pincher Creek Dairy Co.		9.80	52.0	
"	"	37518	W. W. Walsh, Vancouver.	1 "	30	Not known.		8.36	53.5	



"	20	"	37519 F. R. Stewart, Vancouver.	1 lb.	25	"	.....	9 06	52 1
"	20	"	37520 Kelly, Douglas & Co., Vancouver.	Van 1 lb.	25	"	.....	7 25	57 8

## DISTRICT OF VICTORIA—D. OSULLIVAN, INSPECTOR.

Nov.	18	Butter.	39207 Windsor Grocery Co., Victoria, B.C.	1 lb.	30	B. Wilson & Co., Victoria, B.C.	Dairy cooking butter	9 60	52 0
"	18	"	39208 The Saunders Grocery Co., Ltd., Victoria, B.C.	1 lb.	30	S. M. O'Kell & Co., Victoria, B.C.	"	12 92	52 3
"	19	"	39209 Harrison & MacDonald, Victoria, B.C.	1 lb.	35	B. Wilson & Co., Victoria, B.C.	Creamery	12 00	52 0
"	19	"	39210 The West End Grocery Co., Ltd., Victoria, B.C.	1 lb.	35	T. Parker, Matchless, V.I.	Farm.	11 70	51 0
"	19	"	39211 Fred Carme, Victoria, B.C.	1 lb.	30	P. R. Stewart & Co., Victoria, B.C.	Dairy	10 20	51 5
"	20	"	39212 Jalland Bros., Victoria, B.C.	1 lb.	30	B. Wilson & Co., Victoria, B.C.	Dairy cooking butter	6 90	51 0
"	20	"	39213 Acton Bros., Victoria, B.C.	1 lb.	30	Henry Moss, Victoria, B.C.	"	5 70	51 0
"	20	"	39214 The Victoria Radclafe Co-op. Association, Ltd., Victoria, B.C.	1 lb.	40	A. McLennan, Salt Spring Island, B.C.	"	9 30	50 5
"	20	"	39215 Wm. B. Hall, Victoria, B.C.	1 lb.	30	B. Wilson & Co., Victoria, B.C.	Dairy cooking butter	7 50	51 5
"	23	"	39216 Copes & Young, Victoria, B.C.	1 lb.	25	S. M. O'Kell & Co., Victoria, B.C.	"	9 50	52 0
"	23	"	39217 W. Speed, Victoria, B.C.	1 lb.	35	D. Naismith & Co., Vancouver, B.C.	Creamery	11 56	52 1
"	23	"	39218 Dixie H. Ross & Co., Victoria, B.C.	1 lb.	25	B. Wilson & Co., Victoria, B.C.	Dairy cooking butter	11 20	51 1
"	24	"	39219 Scott & Peden, Victoria, B.C.	1 lb.	35	"	Creamery	13 66	51 1
"	24	"	39220 J. Renouf, Victoria, B.C.	1 lb.	30	Patterson Bros., Victoria, B.C.	Dairy cooking butter	9 12	52 0
"	25	"	39221 L. Dickson, Victoria, B.C.	1 lb.	30	B. Wilson & Co., Victoria, B.C.	"	10 30	53 5
"	25	"	39222 John Ward, Victoria, B.C.	1 lb.	25	"	"	10 80	52 0
"	27	"	39223 R. Erskine, Victoria, B.C.	1 lb.	30	Lewis & Stanley, Victoria, B.C.	Dairy	7 04	52 0
"	30	"	39224 John Bros., Victoria, B.C.	1 lb.	30	B. Wilson & Co., Victoria, B.C.	"	11 68	52 0
"	30	"	39225 H. Allnuth, Victoria, B.C.	1 lb.	25	"	"	13 76	52 1
"	30	"	39226 Devallée, Sons & Co., Victoria, B.C.	1 lb.	30	"	"	9 40	52 0



APPENDIX U.

BULLETIN No. 171—CHEESE.

OTTAWA, Jan. 11, 1909.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR, — I beg to hand you a report of work done upon 237 samples of cheese collected throughout Canada in October of last year. All the inspectoral districts are represented in this collection, which with the exception of two samples of skim-milk cheese (Nos. 845 and 35756) consists of ordinary Canadian, whole milk cheese. Since no standards have been established regarding this article, it is impossible to classify the samples herein reported, as above or below a normal. But the report is not on that account, without interest and value.

The fact that, in a collection of 237 samples of cheese, only two samples of skim-milk cheese were obtained, would seem to imply that the sale of skim-milk cheese is relatively unimportant in Canada; a very satisfactory state of things, since the demand for cheap and inferior articles of food is usually an indication of poverty on the part of consumers.

The collection is large enough to give value to the following generalizations, as regards water content in market cheese.

Inspection District.	Number of Samples.	Percentage of Water.		Mean.
		Maximum.	Minimum.	
Nova Scotia.....	15	32·76	20·08	26·47
Prince Edward Island.....	15	30·13	17·04	24·27
New Brunswick.....	15	32·60	23·24	26·89
Quebec.....	16	35·96	19·92	28·54
St. Hyacinthe.....	11	35·16	24·64	24·73
Montreal.....	15	34·08	13·60	28·17
Ottawa.....	15	34·92	23·28	28·89
Kingston.....	15	33·88	25·16	30·77
Toronto.....	15	33·28	22·12	27·69
London.....	21	31·20	17·92	25·57
Windsor.....	20	33·58	20·40	27·05
Manitoba.....	14	32·48	12·32	26·05
Calgary.....	15	28·80	16·92	23·53
Vancouver.....	15	32·20	23·68	28·28
Victoria.....	15	31·00	23·48	28·19
	235			27·00



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The mean water content of Canadian whole milk cheese would therefore appear to be about 27 per cent by weight of the cheese. This is probably a little below the truth, since although the samples were wrapped in double paraffined paper, and worked without unnecessary delay, it was inevitable that, an unknown, but probably quite small percentage of water should be lost by evaporation. This loss is probably not greater than that incident to such exposure as cut cheese receives, in ordinary retail selling.

On account of the variation of water content a statement of the weight per cent of fat in cheese conveys little useful information unless it is related to the dry matter of the cheese; that is, unless the water is taken into account. The column, in the accompanying table, headed 'Fat percentage on dry substance,' gives a datum from which we may infer the character of the milk employed in making the cheese. The following synopsis gives an interesting presentation of this phase of the subject:—

FAT, as a percentage on the dry cheese—

Fat, below 1 per cent on dry cheese.....	2
" from 32 to 40 per cent.....	8
" " 41 to 43 ".....	7
" " 44 to 45 ".....	40
" " 46 to 48 ".....	135
" " 49 to 50 ".....	34
" " above 50 ".....	11
	<hr/> 237 <hr/>

From this it appears that the great bulk of Canadian cheese contains from 44 to 48 per cent of fat, reckoned on the dry cheese. This is true of 175 samples now reported, or nearly 74 per cent of the entire collection. Of the remaining 26 per cent of the collection, 19 per cent contained above 48 per cent of fat.

The Department of Agriculture of the United States has enacted a standard for fat in cheese, reckoned on the dry substance requiring not less than 48 per cent if the cheese is to be recognized as 'Standard whole-milk Cheese, full Cream Cheese or Cream Cheese.' Judged by this standard only 31 per cent of the present collection could be correctly described as 'Standard whole-milk Cheese.'

A Bill which has been drawn up by a committee appointed for the purpose, at the twelfth Annual Convention of the Association of State and National Food and Dairy Departments, held at Chicago, and which is proposed to be adopted by the different state legislatures as a uniform food law, defines cheese as follows:—

'Cheese is the sound, solid, and ripened product made from milk or cream by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening ferments and seasoning, and contains, in the water-free substance, not less than fifty (50) per cent of milk fat. Cheese may also contain added colouring matter.'

Examination for fats, other than butter fat, has been made in all of the samples now reported and no foreign fat has been found in any of them. This is pretty conclusive evidence that so-called 'filled' cheese is not known in Canada.

The only former occasion upon which cheese has been systematically examined by this branch, was in 1888, and the results of work upon 48 samples is published in Bulletin No. 6. of that year. The inspection in question had special regard to the introduction of foreign fats into cheese, and the results proved that Canadian cheese was uniformly genuine in this respect.

The present report would seem to indicate that 30 per cent of water is a reasonable limit in ripened cheese; and I would respectfully suggest the legal adoption of 48 per cent of fat, reckoned upon the dry cheese, as a reasonable minimum for a standard whole-milk cheese.

I beg to recommend the publication of this report as Bulletin No. 171.

Yours truly,

A. McGILL,

Chief Analyst.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF NOVA SCOTIA--

1908.						
Oct.	13	Cheese . . . . .	33701 J. F. Miles, Sydney, N.S. . . . .	1 lb . .	17	Smith & Proctor, Sydney, N.S.
"	13	" . . . . .	33702 A. D. Ingraham, Sydney, N.S. . . .	1 " . .	17	" " . .
"	15	" . . . . .	33703 A. F. Ross & Co., Truro . . . . .	1 " . .	18	Unknown . . . . .
"	15	" . . . . .	33704 H. W. Ryan, Truro. . . . .	1 " . .	13	F. W. Fearman, Toronto, Ont.
"	16	" . . . . .	33705 Boggs Bros., Kentville, N.S. . . . .	1 " . .	15	F. W. Fearman, Hamilton, Ont.
"	17	" . . . . .	33706 Shand Bros., Windsor, NS . . .	1 " . .	18	R. B. Seeton & Co., Halifax, N.S.
"	19	" . . . . .	33707 W. J. Forrestall & Co., Halifax, N.S. . . .	1 " . .	18	Smith & Proctor, Halifax, N.S.
"	19	" . . . . .	33708 J. L. Archibald & Son, Halifax, N.S. . . .	1 " . .	18	Bauld Bros., Halifax, N.S. . . . .
"	19	" . . . . .	33709 Dillon Bros., Halifax, N.S. . . . .	1 " . .	20	Smith & Proctor, Halifax, N.S.
"	20	" . . . . .	33710 Jas. McGregor, Halifax, N.S. . . . .	1 " . .	16	Unknown . . . . .
"	20	" . . . . .	33711 O'Neil & Melcahey, Halifax, N.S. . . .	1 " . .	17	" . . . . .
"	20	" . . . . .	33712 Larder, Hubley & Co., Halifax, N.S. . . .	1 " . .	20	B. H. Power, Halifax, N.S. . . . .
"	21	" . . . . .	33713 R. N. McDonald, Halifax, N.S. . . .	1 " . .	17	" " . .
"	21	" . . . . .	33714 T. F. Courtney & Co., Halifax, N.S. . . .	1 " . .	18	Smith & Proctor, Halifax, N.S.
"	21	" . . . . .	33715 W. J. Hubley Halifax, N.S. . . . .	1 " . .	18	Nickerson & Hart, Halifax, N.S.

DISTRICT OF PRINCE EDWARD ISLAND--

Oct.	28	Cheese . . . . .	31366 J. W. Morrison, North Tryon. . . . .	1 lb . .	16	Emerald Cheese Factory, Emerald.
"	28	" . . . . .	31367 M. Delaney, North Tryon. . . . .	1 " . .	16	Emerald Dairy Co., Emerald. .
"	29	" . . . . .	31368 R. H. Cameron, Crapaud . . . . .	1 " . .	16	Carvel Bros., Charlottetown . .
"	30	" . . . . .	31369 Leslie Worth, Charlottetown. . . . .	1 " . .	16	J. A. Farquharson, Charlotte-town.
"	30	" . . . . .	31370 P. Duffy, Charlottetown . . . . .	1 " . .	18	A. J. Biffin, Charlottetown. . . .
Nov.	4	" . . . . .	31371 McLeod & Johnson, Charlotte-town. . . . .	1 " . .	16	Auld Bros., Charlottetown . . . .
"	5	" . . . . .	31372 J. H. Myrick, Alberton. . . . .	1 " . .	14	Alma Cheese Factory, Alma. . .
"	6	" . . . . .	31373 D. D. Campbell, O'Leary. . . . .	1 " . .	16	A. J. Thompson, Bloomfield. . .
"	6	" . . . . .	31374 Sinclair & Stewart, Summerside. . . . .	1 " . .	16	Egmont Bay Cheese Factory, Egmont.
"	7	" . . . . .	31375 W. H. Leslie, Kensington. . . . .	1 " . .	16	Kensington Cheese Factory, Kensington.
"	13	" . . . . .	31376 Wm. Sharam, Murray Harbour. . . . .	1 " . .	17	Battenburg & Co., Ltd., Char-lottetown.
"	14	" . . . . .	31377 D. A. McLeod, Murray River. . . . .	1 " . .	16	Carvell Bros., Charlottetown . .
"	16	" . . . . .	31378 A. D. Ross, Eldon. . . . .	1 " . .	15	Orwell Cheese Factory, Orwell.



## SESSIONAL PAPER No. 14

## CHEESE.

Inspector's Report.	RESULTS OF ANALYSIS.							Remarks and Opinion of the Chief Analyst.
	Water.	Fat.	Total Ash.	Salt in Ash.	Clad by Difference.	Reading of Butyrometer corrected at 50° C.	Fat, per cent on dry substance.	
R. J. WAUGH, INSPECTOR.								
	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
.....	20.08	38.80	4.16	1.63	26.96	53.0	48.35	
.....	24.41	38.44	3.34	0.83	33.78	53.0	50.87	
.....	27.88	32.48	3.46	1.10	36.18	52.9	45.94	
.....	22.04	36.92	3.00	0.48	28.04	52.6	47.36	
.....	27.92	33.40	3.06	0.56	35.62	52.5	46.34	
.....	21.36	29.64	4.12	1.39	44.88	52.2	37.69	
.....	29.00	33.44	3.66	1.06	33.90	52.5	47.24	
.....	24.48	36.12	3.66	1.11	35.74	51.5	47.83	
.....	27.93	34.80	2.68	0.67	34.56	51.0	48.30	
.....	32.76	31.12	3.64	1.19	32.48	52.5	46.28	
.....	26.84	35.96	3.36	1.04	33.84	52.5	49.15	
.....	25.72	36.32	3.00	0.69	34.76	53.0	49.17	
.....	28.24	35.36	3.64	1.17	32.76	53.0	49.28	
.....	31.24	32.48	2.92	0.48	33.36	53.0	47.24	
.....	24.12	38.36	3.34	0.99	34.18	50.8	50.55	

## T. MOORE, INSPECTOR.

Sample from cut Cheese in store.	17.04	40.92	3.96	1.16	38.08	53.0	49.32	
Sample as sold to customers..	24.88	36.20	3.58	0.87	35.34	51.7	48.19	
Sample taken from cheese exposed for sale.	17.12	38.80	4.28	1.22	30.80	52.0	46.81	
Sample taken from cut cheese in store.	22.28	39.68	3.04	0.85	35.00	52.7	51.06	
From cheese as sold in store..	18.56	41.74	3.40	1.17	36.30	52.2	51.49	
Sample as sold in store .. ..	19.00	38.36	3.90	1.06	38.74	51.7	47.37	
Sample from cut cheese in retail store.	27.68	35.00	3.24	0.96	34.08	51.5	48.39	
Sample of cheese as exposed for sale in store.	24.00	35.20	4.10	1.26	36.70	52.7	46.31	
" " ..	30.13	33.44	4.00	1.15	32.43	52.7	47.86	
Sample from Mr. Leslie, Manager of Factory.	25.08	36.20	4.00	0.77	34.72	52.8	48.32	
Sample taken as sold to customers.	28.88	28.68	3.20	0.92	39.24	52.7	40.32	
Sample from cheese exposed for sale.	27.06	33.20	3.28	0.98	36.46	51.5	45.50	
Sample as sold to customers..	29.20	31.20	3.10	0.64	36.50	52.0	44.07	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF PRINCE EDWARD ISLAND—						
1908.						
Nov. 18	Cheese. ....	31379	F. White, Charlottetown.....	1 lb ..	18	Carvell Bros., Charlottetown..
" 18	" ....	31580	Ewen Cameron, Charlottetown ..	1 " ..	18	Dillon & Speltell, Charlottetown
DISTRICT OF NEW BRUNSWICK—						
Oct. 14	Cheese .....	29799	John Cogger, St. John, N.B.....	1 lb ..	20	G. E. Barbour Co., Ltd., St. John, N.B.
" 14	" ....	29800	H. M. Saunders, St. John, N.B..	1 " ..	20	Northrup & Co., St. John, N.B.
" 15	" .....	29801	M. & H. Gallagher, St. John, N.B	1 " ..	22	Joseph Campbell, Newtown, N.B.
" 15	" .....	29802	Albert E. Trentowskey, St. John, N.B.	1 " ..	20	A. F. McLaren Cheese Co., Toronto.
" 15	" .....	29803	W. L. Hogan, St. John, N.B ..	1 " ..	20	Jones & Schofield, St. John, N.B.
" 15	" .....	29804	Day & Crabb, St. John, N.B...	1 " ..	18	F. W. Fearman & Co., Hamilton, Ont.
" 15	" .....	29805	Charles F. Francis & Co., St. John, N.B.	1 " ..	18	James Campbell, Sussex, N.B.
" 5	" .....	29806	W. B. McKay & Co., Sussex Kings Co., N.B.	1 " ..	20	Maritime Dairy Co., Sussex, N.B.
" 6	" ....	29807	H. T. Brewster, Moncton, N.B...	1 " ..	20	F. P. Reid & Co., Moncton, N.B.
" 7	" ....	29808	M. Bannon, Newcastle, N.B.....	1 " ..	20	F. W. Fearman & Co., Hamilton, Ont.
" 10	" ....	29809	B. M. Moran, Chatham, N.B....	1 " ..	20	A. F. Randolph & Son, Chatham, N.B.
" 18	" .....	29810	J. McKnight, Fredericton, N.B..	1 " ..	20	" " ..
" 19	" .....	29811	W. S. Skillen, Woodstock, N.B..	1 " ..	23	" " ..
" 21	" .....	29812	T. D. Sadler, Perth, N.B.....	1 " ..	16	" " ..
" 21	" .....	29813	D. R. Bedell, Andover, N.B.....	1 " ..	20	Baird & Peters, St. John, N.B.
DISTRICT OF QUEBEC—						
Oct. 16	Cheese ..	34450	Amédé Plourde, L'Islet.. .....	1 lb ..	16	J. B. Thibodeau & Cie, Quebec
" 16	" .....	34453	Irénée Allard, L'Islet.....	1 " ..	16	Emond & Côté, Quebec.....
" 16	" ..	34456	O. Corbeaumeur, L'Islet Station...	$\frac{3}{4}$ " ..	10	" " ..
" 21	" ..	34467	L. H. Levasseur, Rivière du Loup	1 " ..	16	Florentine Soucy, Olacro.....
" 21	" ..	34468	" ..	1 " ..	35	F. Dupont, Rotterdam, Holland
" 21	" .....	34473	Martin Damien, Rivière du Loup	1 " ..	20	J. B. Thibadeau, Quebec.....
" 21	" ..	34475	Joseph Viel, Rivière du Loup....	1 $\frac{1}{2}$ lb..	19	J. B. Renaud & Co., Quebec...
" 21	" ..	34476	J. E. Pineau, Rivière du Loup...	1 $\frac{1}{2}$ " ..	22	" " ..



## SESSIONAL PAPER No. 14

## CHEESE.

## RESULTS OF ANALYSIS.

Inspector's Report.	RESULTS OF ANALYSIS.							Remarks and Opinion of the Chief Analyst.
	Water.	Fat.	Total Ash.	Soluble Ash.	Crystals of Phosphate.	Reduced Matter in the residue.	Per cent of dry substance.	

T. MOORE, INSPECTOR—*Concluded.*

	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Sample from box on counter..	24.36	33.00	3.44	0.73	39.20	51.5	43.63
Sample from lot as sold re- tail.	28.92	34.68	3.36	0.73	33.04	52.3	48.75

## J. C. FERGUSON, INSPECTOR.

Cut from cheese in store..	23.24	31.46	3.74	1.08	38.62	52.1	44.81
"	29.36	32.92	2.90	0.67	35.82	53.0	45.0
" " .....	23.80	35.88	3.10	1.03	37.22	51.8	47.09
" " .....	28.80	28.80	2.74	0.47	39.06	51.5	40.45
" " .....	32.60	31.48	3.50	1.03	32.42	52.3	46.69
"	28.52	32.68	2.88	0.57	35.92	52.1	45.72
" " .....	27.76	34.24	3.69	1.36	34.40	51.8	47.39
" " .....	24.72	37.12	3.54	1.09	34.62	52.4	49.21
"	25.64	36.28	3.84	1.26	35.24	52.5	47.51
" " .....	24.28	35.24	3.50	0.77	35.98	52.6	46.54
"	26.80	33.72	4.10	0.86	35.38	51.6	44.69
New Brunswick cheese..	24.28	35.96	3.88	1.07	35.88	51.3	47.49
"	29.32	34.28	2.04	0.64	34.36	53.0	48.42
"	25.80	37.80	2.80	0.76	33.60	52.2	50.04
"	30.40	32.08	2.98	0.64	34.54	51.2	46.69

## E. BELAND, INSPECTOR.

"	23.24	42.68	3.36	1.09	30.72	52.5	55.60
"	30.16	32.96	3.74	0.39	32.34	52.8	47.74
"	32.00	33.60	2.10	0.39	31.70	52.8	49.87
"	19.92	36.40	3.12	0.66	40.56	51.5	45.45
"	23.28	31.44	5.36	2.85	39.92	53.5	49.98
"	32.44	31.64	3.20	0.74	32.72	52.3	46.83
"	28.00	36.04	2.90	0.45	33.06	52.0	50.05
"	35.96	26.28	2.78	0.53	34.98	52.3	41.04



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF QU EBEC—

1908.						
Nov.	5	Cheese.....	34484 Francois Bourgoïn, Tadousac ...	1 lb ..	15	Thod Demeull, Tadousac.....
"	6	" .....	34487 Cyrile Avrey, Pointe du Persil...	1 " ..	16	Elzar Poherres, St. Fidèle.....
"	9	" .....	34489 Alfred Larouche, Murray Bay...	1 " ..	17	Evangeline Dufour, Murray Bay
"	9	" .....	34495 Joseph Brassard, Murray Bay. ...	1 " ..	16	" " ..
"	10	" .....	34496 N. Desylva, Murray Bay . ....	1 " ..	16	" " ..
"	10	" .....	34497 Elie Harvey, Murray Bay.....	1 " ..	15	" " ..
"	10	" .....	34499 Jos. Couturier, Murray Bay.....	1 " ..	15	Jule Prodette, Murray Bay....
"	30	" .....	36802 N. Boisseau, Rue St. Joseph.....	1 " ..	17	Unknown .....

DISTRICT OF ST. HYACINTHE—

Oct.	8	Cheese .....	832 G. Paulin, Montreal. . . . .	12 oz..	12	Whyte Facking Co., Montreal.
"	8	" .....	833 Russell's Market, Montreal .....	17 " .	23	Olive, Dorion & Stroud, Mont- real.
"	8	" .....	834 T. A. Wood & Co., Montreal....	1 lb ..	20	Whyte Packing Co., Montreal.
"	9	" .....	835 A. Manelli, 80 DeMontigny St., Montreal.	1 " ..	20	Gunn, Langlois & Co., Montreal
"	12	" .....	836 F. H. Chapleau, St. Agathe des Monts.	17 oz..	20	Jos. Bourgela, Montreal .....
"	13	" .....	837 E. E. Laflamme, St. Jerome...	15 " .	16	Mr. Sauvageau, St. Jerome....
"	14	" .....	838 L. A. Perrault, Joliette.....	18 oz..	18	J. J. Sournis, Joliette.....
"	14	" .....	839 Belair & Paquette, St. Eustache..	2 oz..	20	Laporte, Martin & Cie., Mont- real.
"	14	" .....	840 R. Manahan, St. Lin.....	17 " .	17	L. Chaput fils & Cie., Montreal.
"	15	" .....	841 P. Robert, Beaurivage Longue Pointe.	1 lb..	16	D. C. Brosseau & Cie., Ltd., Montreal.
"	16	" .....	842 A. July, Lachine . . . . .	1 " ..	15	Mathews, Fortier & Monette, Montreal.
"	22	" .....	843 J. N. Primeau, Ahuntsic .....	1 " ..	16	A. McCullough & Co., Montreal
"	29	" .....	844 Rowlan Hill & Co., Valleyfield..	1 " ..	20	Gunn, Langlois & Cie., Montreal
"	30	" .....	845 B. Ram, Montreal .....	1 cheese	10	Not known.....
"	30	" .....	846 R. Turner, Montreal.....	1 lb..	20	Whyte Packing Co., Montreal.

DISTRICT OF MONTREAL—

Oct.	8	Cheese .....	32731 P. C. Lemoine, Sorel.....	1 lb.	16	L. Chaput fils & Cie., Montreal.
"	9	" .....	32732 U. S. Hetherington, Sherbroke..	1 " ..	18	Not given.....



## SESSIONAL PAPER No. 14

## CHEESE.

Inspector's Report.		RESULTS OF ANALYSIS.							Remarks and Opinion of the Chief Analyst.
		Water.	Fat.	Total Ash.	Salt in Ash.	Chard by Difference.	Reading of Refractometer corrected at 25° C.	Fat, per cent. on dry substance.	
E. BELAND, INSPECTOR— <i>Continued</i> .									
		p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
		27.92	36.20	2.68	0.86	32.20	51.1	50.22	
		27.60	36.52	3.54	0.61	32.32	50.4	50.44	
		29.26	33.72	3.54	1.00	33.54	51.1	47.62	
		30.12	33.08	3.04	0.99	33.76	52.3	47.34	
		29.60	34.40	3.00	0.99	33.00	51.8	48.87	
		25.00	36.08	2.56	0.80	35.76	52.1	48.52	
		27.72	31.64	3.54	0.90	34.10	50.8	47.92	
		32.30	24.32	2.36	0.84	40.70	51.3	36.06	
J. C. ROULEAU, INSPECTOR.									
		25.28	36.16	3.00	0.62	32.72	52.5	42.19	
Cut from 5 lb. lump...		28.90	31.32	3.88	1.04	32.20	52.6	48.27	
10		33.06	31.38	3.82	0.65	31.74	52.3	46.88	
" 5 "		26.72	36.40	3.80	0.82	33.08	53.6	49.67	
5		24.92	35.48	4.24	1.30	30.32	52.6	48.41	
" 20 "		24.64	39.16	3.70	1.38	32.50	53.1	51.96	
10		35.46	28.88	3.06	0.57	32.90	52.3	47.61	
Cheese marked J. B. 1, 1, 10		29.72	32.80	3.44	0.82	34.04	52.6	46.67	
Cut from a 10 lb. lump...		25.76	32.96	3.42	0.61	37.86	52.8	44.39	
		31.68	32.16	3.24	0.89	32.92	52.3	47.07	
		24.88	36.08	3.60	0.62	34.84	52.5	48.83	
Cut from a 20 lb. cheese....		28.40	34.44	2.68	0.42	34.48	51.8	48.10	
		28.72	34.52	3.04	0.87	33.72	51.5	48.43	
Made by a process employed in Russia and other European Countries.		66.48	0.12	0.99	None	32.50	53.2	0.36	Fromage Blanc
Cut from a 20 lb. lump. ....		30.48	32.16	2.56	0.39	34.68	51.6	46.27	
J. J. COSTIGAN, INSPECTOR.									
		32.48	31.48	3.08	0.73	32.96	53.4	46.62	
		31.60	34.74	3.20	0.99	30.46	53.5	50.79	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF MONTREAL—						
1908.						
Oct. 9	Cheese.....	32733	N. Lacroix, Sherbroke. ....	1 lb ..	20	L. Corriveau, Magog, P.Q.....
" 10	" .....	32734	McRae Bros., Richmond, P.Q....	1 " ..	18	Seth Carr, Richmond, P.Q. ....
" 10	" .....	32735	A. U. Beausoliel, Richmond, P.Q	1 " ..	20	Not known.....
" 13	" .....	32736	Gregorie et frere, St. Hyacinthe..	1 " ..	18	" .....
" 13	" .....	32737	H. Messier, St. Hyacinthe. ....	1 " ..	20	" .....
" 14	" .....	32738	J. O. Montplaisir, Drummond-ville, P.Q.	1 " ..	18	" .....
" 14	" .....	32739	J. N. Turcotte, Drummondville, P.Q.	1 " ..	18	Hudon Herbert, Montreal. ...
" 15	" .....	32740	Roberge & Roberge, Metford Mines	1 " ..	15	D. Raymond, Thetford, P.Q...
" 15	" .....	32741	Alphonse Blais, Metford Mines...	1 " ..	17	Not known .....
" 15	" .....	32742	Joseph Masson, Danville, P.Q....	1 " ..	17	A. Simard, Tingwick, P.Q.....
" 16	" .....	32743	F. W. Gibson, Danville, P.Q....	1 " ..	18	Not known.....
" 19	" .....	32744	A. E. D'Artois & fils, Farnham...	1 lb. 5 oz.	20	Joseph Brault, St, Alexandre, P.Q.
" 19	" .....	32745	J. Dagenais & Co., Farnham....	1 lb ..	17	Not given .....
DISTRICT OF OTTAWA—						
Sept. 30	Cheese ..	22724	P. A. McLaurin, Vankleek Hill..	1 lb ..	17	Aberdeen Factory, Vankleek Hill.
" 30	" ..	22725	W. George, Eganville.....	1 " ..	15	J. L. McKibbon, Eganville....
Oct. 3	" ..	22726	L. M. Davidson, Kemptville.....	1 " ..	20	McFadden, South Gower.....
" 6	" ..	22727	John McKimmon, Almonte.....	1 " ..	15	Ingersoll Packing Co., Ingersoll, Ont.
" 7	" ..	22728	Stephen Pilon, Rockland...	1 " ..	15	Not known.....
" 9	" ..	22729	Stewart Bros. Co., Penfrew. ...	1 " ..	17	C. L. McCready, Admaston, Ont.
" 10	" ..	22730	McDougall & Carr, Finch.....	1 " ..	15	Lorne McLean, Finch.....
" 12	" ..	22731	Mrs. P. Brankin, Ottawa .....	1 " ..	15	Lerner & Moyneur, Ottawa....
" 12	" ..	22732	Eustache Gougeon, Ottawa ...	2 " ..	16	Freedman, Ottawa. ....
" 12	" ..	22733	S. Diamond, Ottawa .....	1 " ..	16	" .....
" 12	" ..	22734	Jos. P. Valiquette, Ottawa ....	1 " ..	17	Lerner & Moyneur, Ottawa...
" 12	" ..	22735	P. Lamoureux, Ottawa .....	1 " ..	18	" ..
" 12	" ..	22736	C. J. Neate, Ottawa .....	1 " ..	15	F. J. Castle Co., Ottawa. ....
" 12	" ..	22737	J. Johnston, Ottawa. ....	1 " ..	16	Provost & Allard, Ottawa.....
" 15	" ..	22738	Carriere Bros., Ottawa .....	1 " ..	18	Lerner & Moyneur, Ottawa....



SESSIONAL PAPER No. 14

CHEESE—

Results of Analysis.							
Inspector's Report.				Results and Opinion of the Chief Analyst.			
No.	Brand.	Total Ash.	Water in Ash.	Condensed Milk.	Percentage of Fat.	Percentage of Protein.	Percentage of Lactose.
J. J. COSTIGAN, INSPECTOR—Concluded.							
.....	34.08	33.11	3.00	0.69	33.81	51.3	41.16
.....	28.44	33.72	2.70	0.76	32.56	51.1	41.16
.....	28.88	33.60	3.60	0.97	33.92	50.2	49.15
.....	27.32	35.72	3.44	0.99	32.85	52.6	50.79
.....	31.56	32.24	3.24	0.85	32.04	52.7	50.72
.....	26.76	37.20	2.16	0.34	38.86	52.6	47.75
.....	27.84	34.72	3.70	0.97	37.28	53.0	46.62
.....	22.72	34.00	3.22	0.72	31.06	53.0	47.34
.....	22.76	35.04	2.90	0.90	31.06	53.0	47.34
J. A. RICKEY, INSPECTOR.							
.....	28.26	33.42	3.00	1.00	34.32	52.9	40.00
.....	28.10	27.84	3.76	1.18	37.42	52.5	49.50
.....	25.82	33.88	3.00	0.76	36.74	51.2	46.43
.....	26.86	34.70	3.62	1.00	31.84	52.5	50.00
.....	30.00	31.80	3.88	1.06	42.14	52.2	39.99
.....	31.00	28.08	3.42	1.18	30.14	52.5	49.63
.....	32.40	33.50	2.62	0.97	31.98	53.0	47.34
.....	24.44	35.08	3.74	0.85	35.12	52.2	46.04
.....	30.20	35.52	2.44	0.40	31.84	52.2	46.04
.....	23.28	30.68	3.90	0.80	42.14	52.2	39.99
.....	34.92	32.30	2.64	0.77	30.14	52.5	49.63
.....	30.80	33.40	4.00	1.11	31.84	52.5	49.63
.....	28.84	32.76	3.28	0.85	35.12	52.2	46.04
.....	33.24	31.60	3.18	0.97	31.98	53.0	47.34



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF KINGSTON—						
1908.						
Oct. 28	Cheese	36031	A. Glover, Kingston.....	1 lb ..	17	J. Y. Parkhill, Kingston.....
" 28	"	36032	J. E. Purdy, Renfrew... ..	1 " ..	17	" " ..
" 29	"	36033	Wm. Davies Co., Renfrew.....	1 " ..	20	" " ..
Nov. 2	"	36034	A. T. Kimmerly, Napanee....	1 " ..	18	Thompson, Napanee .....
" 2	"	36035	F. H. Perry, Napanee.....	1 " ..	20	W. F. Gerow, Napanee.....
" 5	"	36036	R. Elvins, Belleville.....	1 " ..	18	Not known.....
" 2	"	36037	H. E. Fairfield, Belleville.....	1 " ..	20	Gunn's, Ltd., Montreal....
" 2	"	36038	P. J. McGinness, Belleville.....	1 lb ..	20	Sprague, Belleville.....
" 2	"	36039	Wallbridge & Clark, Belleville...	1 " ..	16	F. Brenton, Belleville.....
" 2	"	36040	J. D. Harker, Belleville... ..	1 " ..	20	Oak Leaf Norwood... ..
" 2	"	36041	G. Person, Belleville ... ..	1 " ..	16	Silver Spring, Picton.....
" 2	"	36042	J. Panter, Belleville ... ..	1 " ..	17	F. Brenton, Belleville. ....
" 2	"	36043	J. H. P. Young, Belleville.....	1 " ..	16	Sprague, Belleville....
" 2	"	36044	G. Boyle, Bellevilie.....	1 " ..	16	W. S. Cook & Son, Belleville..
" 2	"	36045	W. T. Patterson, Belleville.....	1 " ..	15	Gunn's Ltd., Toronto. ....
DISTRICT OF TORONTO—						
Oct. 12	Cheese.....	36121	R. Burnett, Durham.....	1 lb ..	17	J. Blyth, Verney, P.O.....
" 13	"	36122	Brock MaCauley, Southampton..	1 " ..	18	W. A. Fearman, Hamilton....
" 13	"	36123	Falconer Bros., Port Elgin .....	1 " ..	19	A. M. Smith, London.....
" 14	"	36124	W. H. McFarlane, Paisley .....	1 " ..	20	Elliott & Marr Co., London....
" 14	"	36125	John Hunstin, Mildmay.....	1 " ..	15	John Sloan & Co., Toronto ...
" 15	"	36126	Schwint & Muter, Hanover.....	1 " ..	16	Simpson Co., Guelph.....
" 15	"	36127	Halliday & Davies, Chelsey.....	1 " ..	17	J. K. Brown, Ethil P.O. ....
" 16	"	36128	T. C. Allan, Wiarion.....	1 " ..	15	McDugal & Lamon, Owen Sound
" 16	"	36129	A. W. McFaul, Owen Sound....	1½ " ..	27	The Ingersoll Packing Co., Ingersoll.
" 19	"	36130	Jas. J. Rae, Shouffville.....	1 " ..	17	J. Wells, Eversley, P.O. ....
" 19	"	36131	H. Wright, Markham.....	1 " ..	20	F. W. Humphrey, Toronto....
" 20	"	36132	H. J. Gould, Uxbridge.....	1 " ..	20	Gunn's Ltd., Toronto.....
" 21	"	36133	Lock Radcliffe, Toronto.....	1 " ..	17	J. A. McLean Produce Co., Ltd. Toronto.



SESSIONAL PAPER No. 14  
CHEESE.

Inspector's Report.	RESULTS OF ANALYSIS.							Remarks, and Opinion of the Chief Analyst.
	Water.	Fat.	Total Ash.	Salt in Ash.	Cl and by difference.	Reading of Butyro-refractometer at 25° C.	Fat, percent on dry substance.	

JAS. HOGAN, INSPECTOR.

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
	31.12	32.08	3.34	0.61	33.46	49.3	46.57	
	26.88	36.00	3.06	0.67	34.06	52.3	49.23	
	28.48	33.20	3.18	0.71	35.14	52.3	46.42	
	30.80	31.76	3.56	1.08	33.88	52.1	45.89	
	33.48	31.00	3.60	0.90	31.92	52.1	46.60	
	31.32	33.40	3.30	1.03	31.98	51.5	48.63	
	28.60	36.52	3.10	0.78	31.78	51.2	51.15	
	33.88	31.96	3.04	0.70	31.12	50.7	48.04	
	31.00	31.84	3.16	0.57	33.40	52.5	46.55	
	33.76	31.12	2.98	0.82	32.14	52.3	46.99	
	33.56	29.96	3.36	0.92	33.12	51.0	45.09	
	28.24	32.96	3.20	0.95	35.00	50.1	45.93	
	31.60	31.84	2.82	0.75	33.74	50.5	46.84	
	35.16	31.72	2.76	0.63	32.36	52.6	47.16	
	25.16	34.76	2.90	0.53	37.18	52.7	46.45	

H. J. DAGER, INSPECTOR.

	31.76	33.08	3.10	0.76	32.36	50.7	48.34	
	35.28	31.20	3.10	0.71	32.42	49.8	46.75	
	30.28	32.80	4.01	0.84	32.88	51.3	47.05	
	25.08	34.20	3.28	0.71	36.44	53.1	45.25	
	24.40	35.36	3.28	0.74	36.96	53.5	46.77	
	22.12	39.28	3.84	0.98	34.76	52.4	50.44	
	24.24	33.80	4.24	1.08	37.72	53.5	44.60	
	27.20	33.20	3.42	1.04	36.18	52.1	45.60	
	27.76	32.56	2.80	0.53	36.88	52.4	45.07	
	27.44	35.20	3.60	1.12	33.76	52.4	48.51	
	23.68	36.08	3.34	0.63	36.20	49.3	47.28	
	24.00	38.66	3.46	1.04	33.98	52.5	50.73	
	27.00	35.60	3.22	0.62	34.18	53.3	48.77	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF TORONTO—

1908.						
Oct. 22	Cheese. ....	36134	D. J. Forrest, Hamilton.....	1 lb..	17	A. W. Robertson, Mohak, P.O.
" 26	" ....	36135	H. Tolchord, Toronto... ..	1 " ..	29	Rutherford, Marshall & Co., Toronto.

DISTRICT OF LONDON—

Oct. 7	Cheese ... .	30504	Alexander Bisset, Kincardine....	1 lb ..	15	Millerton Cheese Co., Bruce Co.
" 7	" ....	30505	R. A. Clinnie, Listowell.....	1 " ..	15	Wallace Cheese Factory, Wal- lace Township.
" 8	" ....	30511	Richard Smith, Seaforth .....	1 " ..	15	Elliot, Marr & Co., London ...
" 12	" ....	30518	T. Bleacom, Clinton.....	1 " ..	16	Geo. Watts & Co., Brantford..
" 18	" ....	30519	H. Wiltzie. .... .	1 " ..	17	White Packing Co., Stratford .
" 15	" ....	30526	L. Walsh, St. Mary's. .... .	1 " ..	18	John Garvey, London. .... .
" 15	" ....	30528	Oman & Mallon, Stratford.. ...	1 " ..	17	Stratford Grocery, Stratford...
" 15	" ....	30530	Walsh Bros., Stratford.....	1 " ..	16	Thos. Balantine Co., Stratford.
" 15	" ....	30532	Jas. Lloyd, Stratford. .... .	3 cups	25	McLaurin Cheese Co., Toronto.
" 15	" ....	30535	Mr. H. Killoran, Stratford.....	3 " ..	16	Not known.. .... .
" 16	" ....	30539	M. Durkin, Mitchell.....	1½ " ..	20	John Steacy, Willow Grove, Mitchell.
" 20	" ....	30541	Peter Dill .....	1½ " ..	16	Stratford Grocery Co., Strat- ford.
" 21	" ....	30544	W. R. Davis, Hensall.....	1½ " ..	25	Ingersoll Cream Cheese Co., Ingersoll.
" 21	" ....	30546	Carling Bros., Exter].....	1½ " ..	13	Edward Adams, London ....
" 22	" ....	30551	J. W. Ortwine, Hensall.....	1½ " ..	16	T. B. Escott, London. .... .
" 5	" ....	30982	C. A. Narin, Goderich .....	1½ " ..	20	Mr. Pearman, Hamilton.....
" 5	" ....	30983	McEwan Bros., Goderich.. ...	1½ " ..	20	Glasco, McPherson & Co., Hamilton.
" 5	" ....	30986	W. L. Lindsay, Goderich.. ...	1½ " ..	15	Edward Adams & Co., London
" 6	" ....	30991	Jas. Cutt, Blyth .... .	1½ " ..	18	Stratford Grocery, Stratford...
" 6	" ....	30998	Ker and Bird, Wingham.....	1½ " ..	15	Geo. Watts & Son, Brantford.
" 7	" ....	31000	Edward Renker, Kincardine.....	1½ " ..	20	Mains & McCallim, Kincardine

DISTRICT OF WINDSOR—

Oct. 7	Cheese. ....	34609	Mrs. T. Boug, London.....	1 lb ..	16	Seandrett Bros., London . . .
" 8	" ....	34613	H. Geach, London.....	1 " ..	17	Not known.....



SESSIONAL PAPER No. 14  
CHEESE.

Inspector's Report.	Remarks by Analysts.							Remarks and Opinion of the Chief Analyst.
	1.	2.	3.	4.	5.	6.	7.	

H. J. DAGER, INSPECTOR—*Concluded.*

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
	33.88	3.48	0.78	34.08	53.3	46.77	
	30.80	3.56	0.92	35.00	50.3	46.00	

T. KIDD, INSPECTOR.

	25.92	34.00	2.00	0.46	37.10	52.7	45.80
	27.40	32.00	3.70	0.94	35.87	52.4	45.30
	20.72	35.00	3.00	0.68	31.80	54.7	49.91
	20.28	34.28	3.00	0.68	32.84	52.6	46.47
	26.12	34.44	3.00	1.05	30.84	50.6	46.04
	20.08	30.84	3.88	0.64	35.20	52.4	44.50
	27.92	33.76	3.60	0.50	34.72	51.6	46.84
	21.20	22.10	2.74	0.27	33.00	52.1	52.20
	29.36	31.72	3.40	0.68	35.32	51.2	45.03
	28.68	32.72	3.28	0.48	35.32	52.8	45.88
	26.08	33.72	3.00	0.84	36.64	53.0	46.75
	21.92	30.00	3.00	0.75	39.32	52.8	45.00
	20.32	31.20	3.40	0.68	36.08	52.8	44.14
	22.40	36.08	3.40	0.80	38.12	50.5	46.40
	20.56	32.56	3.44	0.60	43.44	52.5	40.90
	23.32	33.50	3.44	0.54	39.72	51.5	43.71
	24.80	34.24	3.24	0.52	47.72	53.0	45.30
	22.04	34.36	4.14	0.80	39.40	51.0	44.08
	24.88	33.72	4.20	0.74	37.20	52.4	44.88
	27.80	32.36	2.76	0.55	37.68	51.2	44.82
	17.92	39.52	4.40	0.94	38.16	51.1	48.15

JOHN TALBOT, INSPECTOR.

Cut from cheese in store.	33.58	30.42	3.66	0.83	32.33	52.2	45.79
"	28.80	31.84	3.92	0.97	35.42	52.0	44.72



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF WINDSOR						
1908.						
Oct. 8	Cheese .....	34617	Mrs. J. T. Odell, London .....	1 lb..	16	Scandrett Bros., London .....
" 8	" .....	34622	E. & O. Boug, London... ..	1 " ..	16	" " .....
" 8	" .....	34625	Mrs. Pugh, London.....	1 " ..	16	Not known .....
" 14	" .....	34637	J. S. Gesner, Ridgetown .....	1 " ..	16	M. Masurett & Co., London...
" 15	" .....	34640	A. Campbell, Leamington.....	1 " ..	15	J. T. Smyth & Co., Windsor, Ont.
" 15	" .....	34641	Robinson Bros., Leamington....	1 " ..	19	" " ..
" 15	" .....	34642	P. Phillips, Leamington.....	1 " ..	16	M. Masurett & Co., London...
" 15	" .....	34643	R. Wigle & Co., Leamington....	1 " ..	16	Geo. Watt, Brantford. ....
" 15	" .....	34647	Geo. McIntyre, Leamington.....	1 " ..	16	Not known.....
" 15	" .....	34650	E. R. Woodwiss, Kingsville....	1 " ..	25	M. Masurett & Co., London...
" 16	" .....	34655	Frank Hutton, Windsor.....	1 " ..	18	Ingersoll Packing Co., Ingersoll
Nov. 10	" .....	34663	W. E. Ross, St. Thomas. ....	1 " ..	17	Edwin Finger, St. Thomas....
" 10	" .....	34665	Steadman & Duncan, St. Thomas	1½ lb	24	A. M. Smith & Co., London...
" 10	" .....	34671	Young & Caven, Aylmer, Ont... 1 lb	1 lb	16	Not known.. ....
" 11	" .....	34675	W. J. Wilkins, Tillsonburg.....	1 " ..	15	Geo. E. Watts & Son, Brantford.
" 11	" .....	34680	Ray P. Colburn, Tillsonburg ...	1 " ..	16	Campbell Town Cheese Co., Tillsonburg.
" 18	" .....	34708	Thos. H. Janes, London South..	1 " ..	14	E. Adams & Co., London.....
" 18	" .....	34709	Millson Trebelcock, London... ..	1½ lb	20	A. M. Smith & Co., London...
DISTRICT OF MANITOBA—						
Nov. 5	Cheese . . .	35750	W. J. Barr, Neepawa.. ....	1 lb..	20	G. F. J. Galt, Winnipeg .....
" 6	" .....	35751	Broadfoot Bros, Gladstone.....	1 " ..	20	A. Macdonald & Co., Winnipeg
" 10	" .....	35752	Hunter & Aitken, Boissevain....	1 " ..	20	The Codville Co., Ltd., Winni- peg.
" 11	" .....	35753	W. M. Roller, Killaruey .. .	1 " ..	15	Mr. N. Clark, Killarney, Man.
" 11	" .....	35754	Hudson Bay Co., Deloraine... ..	1 " ..	20	Not given .....
" 16	" .....	35755	G. French, Souris .. .	1 " ..	20	" .....
" 18	" .....	35756	H. Cooperman, Brandon ...	1 " ..	10	S. Barosh, Wapella, Sask... ..
" 19	" .....	35757	C. W. Barkwell, Treherne.....	1 " ..	20	Foley, Lock, Larson, Winnipeg
" 19	" .....	35758	J. G. McGowan & Co., Treherne.	1 " ..	15	The Jobin Marrin Co., Winni- peg.
" 19	" .....	35759	W. F. Schooley, Holland.....	1 " ..	20	" " ..



SESSIONAL PAPER No. 14

CHEESE.

Inspector's Report.	RESULTS OF ANALYSIS.							Remarks and Opinion of the Chief Analyst.
	Water.	Fat.	Total Ash.	Salt in Ash.	Curd by Difference.	Reading of Butyro refrac- tometer at 25° c.	Fat, per cent on dry Substance.	

JOHN TALBOT, INSPECTOR—*Concluded.*

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
Cut from cheese in store.....	30.80	32.60	3.48	0.83	33.12	53.3	47.11
" .....	28.52	32.46	3.10	0.63	35.92	53.5	45.41
" .....	33.14	26.14	3.08	0.74	36.64	53.5	39.09
" .....	21.56	35.84	3.84	0.88	38.76	53.0	45.69
" .....	24.32	33.88	3.40	0.61	38.40	52.3	44.77
" .....	27.24	33.04	3.90	0.96	35.82	52.6	45.40
" .....	29.16	33.32	2.74	0.63	34.74	52	47.09
" .....	29.40	37.60	3.10	0.52	38.90	53.5	47.24
" .....	26.12	38.56	3.28	0.74	32.04	51.8	42.19
" .....	23.92	35.68	3.68	0.69	36.72	52.2	46.89
" .....	30.20	31.24	2.96	0.76	35.60	53.6	41.76
" .....	25.20	34.20	3.04	0.74	36.56	53.2	45.72
" .....	20.56	35.32	4.24	1.15	39.68	51.4	44.72
" .....	26.28	34.72	4.04	0.91	34.96	51.6	47.09
" .....	25.72	35.68	3.40	0.72	35.20	52.8	48.94
" .....	27.96	32.32	3.74	0.84	35.98	52.7	44.87
" .....	29.84	32.56	3.56	0.81	34.04	52.6	46.41
" .....	26.76	34.92	2.66	0.88	35.66	53.6	47.68

A. C. LARIVIERE, INSPECTOR.

" .....	14.96	42.60	3.66	0.78	38.78	51.1	50.09
" .....	20.64	38.96	3.98	1.05	36.42	51.6	49.09
" .....	20.40	40.60	4.30	1.36	34.70	51.8	51.00
" .....	30.00	34.12	4.00	0.92	31.88	51.1	48.74
" .....	12.32	42.62	3.64	0.96	41.40	52.1	48.60
" .....	24.80	37.32	3.24	0.88	34.64	51.5	49.63
" .....	56.76	0.32	2.96	1.38	39.96	52.5	00.74
" .....	28.96	30.40	3.64	0.81	37.60	51.6	42.79
" .....	32.48	32.48	3.00	0.76	32.04	52.5	48.10
" .....	26.80	36.76	2.44	0.35	34.00	51.9	50.22



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	COST.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF MANITOBA—						
1908.						
Nov. 19	Cheese. ....	35760	G. Barkwell, Holland.....	1 lb .	10	Not given.....
" 20	" ....	35761	J. W. Cambleford, Carman.....	1 " ..	26	Foley Bros. & Larson, Winni- peg.
Dec. 9	" ....	35762	G. T. Hoyer, Elmwood P.O., Winnipeg.	1 " ..	20	Not given.....
" 10	" ....	35763	R. L. Hood & Co., Oak Lake....	1 " ..	20	" .....
" 11	" ....	35765	Mrs. E. Winkle, Winnipeg.....	1 " ..	20	A. MacDonald & Co., Winni- peg.
DISTRICT OF CALGARY—						
Nov. 16	Cheese ....	35431	Calgary Milling Co., Calgary....	1 lb ..	20	Flavalle Bros., Lindsay, Ont ..
" 16	" ....	35432	J. A. Nolan, Calgary.....	1 " ..	20	Balfour & Smye, Hamilton....
" 16	" ....	35433	Wood & Green, Calgary.....	1 " ..	20	C. R. Dickson & Co., Ltd., Cal- gary.
" 16	" ....	35434	P. J. Morrow, Calgary.....	1 " ..	20	Plunkett & Savage, Calgary. ..
" 16	" ....	35435	Fred Langston, Calgary.....	1 " ..	20	" ..
" 16	" ....	35436	D. M. Roade, Calgary.....	1 " ..	20	C. R. Dickson & Co., Ltd., Cal gary.
" 16	" ....	35437	J. Austin, Calgary .....	1 " ..	20	J. Y. Griffin & Co., Calgary...
" 16	" ....	35438	Wiggins & Co., Calgary.....	1 " ..	20	" ..
" 24	" ....	35439	H. W. Ireland, Medicine Hat... 1 " ..	20	Balfour Smye & Co., Hamilton.	
" 24	" ....	35440	Spencer & Todd, Medicine Hat.. 1 " ..	20	" ..	
" 24	" ....	35441	R. Dunn, Medicine Hat ... .. 1 " ..	20	" ..	
" 24	" ....	35442	Mrs. Brougham, Medicine Hat.. 1 " ..	20	J. Y. Griffin & Co., Calgary...	
" 24	" ....	35443	L. B. Cochran, Medicine Hat.... 1 " ..	20	Codville Co., Ltd., Winnipeg..	
" 24	" ....	35444	Hudson Bay Co., Lethbridge.... 1 " ..	20	Hudson Bay Co., Winnipeg....	
" 24	" ....	35445	Bentley & Co., Lethbridge .....	1 " ..	20	F. W. Fearman & Co., Hamilton
DISTRICT OF VANCOUVER—						
Oct. 14	Cheese .....	37521	H. W. Jones, Epworth.....	1 lb ..	20	Melrose Falls, Cheese Co., To- ronto.
" 14	" ..	37522	Main Grocery, Grandview.....	1 " ..	20	Not known .....
" 14	" ..	37523	Grandview Retail Store, Grand- view.	1 " ..	20	W. J. McMillan & Co., Van- couver.
" 14	" ..	37524	A. E. Field, Grandview.....	1 " ..	20	Hudson Bay Co., Vancouver...
" 15	" ....	37525	E. Hunt, Steveston, B.C .....	1 " ..	25	Not known.....
" 15	" ....	37526	Griggs & Co., Eburne, B.C .....	1 " ..	20	Kelly Douglas & Co., Vancouver



SESSIONAL PAPER No. 14

CHEESE.

Inspector's Report.	RESULTS OF ANALYSIS.							Remarks at 10 <sup>h</sup> m. of the Chief Analyst.
	Water.	Fat.	Total Ash.	Salt in Ash.	Quot. by Difference.	Reading of Butyro-refrac- tometer at 25° C.	Fat, per cent in dry Substance.	

A. C. LARIVIERE, INSPECTOR—*Concluded.*

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
.....	25.76	35.00	2.06	0.12	35.24	50.1	49.11	
.....	32.20	32.00	3.08	0.72	32.72	52.3	47.19	
.....	31.28	32.48	2.92	0.61	33.32	50.0	47.27	
.....	31.68	33.96	3.28	0.80	31.96	53.0	45.38	
.....	31.48	31.80	2.60	0.57	34.12	51.6	47.49	

R. W. FLETCHER, INSPECTOR.

.....	17.12	39.68	4.24	1.24	39.76	51.8	47.15	
.....	19.56	37.80	3.66	0.71	39.18	52.6	46.88	
.....	22.52	35.80	3.92	0.90	37.76	51.2	47.49	
.....	25.20	35.32	3.92	0.90	36.76	50.1	47.22	
.....	16.92	38.40	3.84	0.92	40.84	51.5	46.22	
.....	17.24	41.16	3.98	1.35	37.62	52.8	49.73	
.....	23.68	35.72	4.00	0.77	36.60	53.0	46.72	
.....	23.12	39.80	3.62	1.13	33.46	52.0	51.77	
.....	26.00	29.16	3.78	1.10	41.06	52.8	50.49	
.....	27.08	34.16	3.32	0.91	35.44	52.8	46.84	
.....	27.52	34.08	4.24	1.11	34.16	52.7	47.62	
.....	24.20	31.72	3.86	0.97	37.32	51.5	46.80	
.....	27.12	35.08	3.82	1.12	35.48	52.5	48.15	
.....	27.04	34.52	3.56	0.63	34.88	52.5	47.31	
.....	28.80	33.60	2.74	0.64	34.86	53.0	47.19	

J. F. POWER, INSPECTOR.

.....	29.28	32.00	3.64	0.57	35.08	53.0	45.25	
.....	26.56	32.44	4.08	0.85	36.92	52.5	44.17	
.....	29.84	30.68	2.92	0.66	36.56	53.0	43.73	
.....	25.96	32.20	3.74	0.75	38.10	53.0	43.49	
.....	30.68	31.72	3.62	0.78	33.98	52.2	45.76	
.....	28.00	32.36	3.04	0.48	36.60	52.0	44.94	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF VANCOUVER—

1908.						
" 15	Cheese . . . .	37527	R. Sharflee . . . . .	1 lb . .	40	Not known . . . . .
" 15	" . . . .	37528	A. Murray, Mount Pleasant . . . .	1 " . .	20	Hudson Bay Co., Vancouver . .
" 16	" . . . .	37529	C. A. Welsh, New Westminster . .	1 " . .	20	Melrose Cheese Co . . . . .
" 16	" . . . .	37530	E. S. Annandale, New Westminster .	1 " . .	20	Melford Cheese Co . . . . .
" 16	" . . . .	37531	West End Grocery, New Westminster .	1 " . .	20	Langley Cheese Co., Langley, B.C.
" 20	" . . . .	37532	F. Consuls, Cemetery Road . . . .	1 " . .	20	Kelley Douglas & Co., Vancouver.
" 20	" . . . .	37533	Bryant Grocery, South Vancouver . .	1 " . .	20	E. W. Leeson Co., Vancouver . .
" 20	" . . . .	37534	Ideal Grocery, Vancouver . . . .	1 " . .	20	Not known . . . . .
" 21	" . . . .	37535	A. R. Stacey, North Vancouver . .	1 " . .	20	N. Lemieux, St. Pierre, Man . .

DISTRICT OF VICTORIA—

Nov. 18	Cheese . . . .	39227	Windsor Grocery Co., Victoria, B.C.	1 lb . .	25	J. Y. Griffin & Co., Vancouver, B.C.
" 18	" . . . .	39228	The Saunders Grocery Co., Ltd., Victoria, B.C.	1 " . .	20	R. G. Rithel & Co., Ltd., Victoria.
" 19	" . . . .	39229	Harrison & MacDonald, Victoria, B.C.	1 " . .	25	J. Y. Griffin & Co., Vancouver
" 19	" . . . .	39230	West End Grocery Co., Victoria, B.C.	1 " . .	25	R. G. Rithel & Co., Ltd., Victoria.
" 19	" . . . .	39231	Fred Carne, Victoria, B.C. . . .	1 " . .	25	F. R. Stewart & Co., Victoria..
" 20	" . . . .	39232	Jalland Bros., Victoria, B.C. . . .	1 " . .	20	J. Y. Griffin & Co., Vancouver
" 20	" . . . .	39233	Acton Bros., Victoria., B.C. . . .	1 " . .	25	F. R. Stewart & Co., Victoria..
" 20	" . . . .	39234	The Vic. Rochdale Co-op. Ass'n., Ltd., Victoria, B.C.	1 " . .	20	J. Y. Griffin & Co., Vancouver
" 20	" . . . .	39235	Wm. B. Hall, Victoria, B.C. . . .	1 " . .	25	J. H. Todd & Son, Victoria . . .
" 23	" . . . .	39236	Copas & Young, Victoria, B.C. . .	1 " . .	20	W. H. Malkin, Vancouver . . .
" 23	" . . . .	39237	W. Speed, Victoria, B.C. . . . .	1 " . .	25	J. W. Morris, Victoria . . . . .
" 23	" . . . .	39238	Dixie H. Ross & Co., Victoria, B.C.	1 " . .	25	J. Y. Griffin, Victoria . . . . .
" 24	" . . . .	39239	Scott & Peden, Victoria, B.C. . . .	1 " . .	25	Naismith & Co., Vancouver . . .
" 24	" . . . .	39240	J. Renouf, Victoria, B.C. . . . .	1 " . .	25	J. H. Todd & Sons, Victoria . .
" 25	" . . . .	39241	F. E. Plummer, Victoria, B.C. . .	1 " . .	20	" " . . . . .



SESSIONAL PAPER No. 14

## CHEESE.

Inspector's Report.	RESULTS OF ANALYSIS.							Remarks and Opinion of the Chief Analyst.
	Water.	Fat.	Total Ash.	Salt in Ash.	Calcd by Difference.	Reading of Ratymetric meter at 55° C.	Fat, percent on dry substance.	

J. F. POWER, INSPECTOR—*Concluded.*

	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.
	26.24	30.48	3.72	0.56	30.50	51.4	41.32
	26.88	29.96	3.08	0.39	30.08	52.4	40.97
	30.96	32.12	4.08	0.90	32.84	51.7	46.72
	27.20	31.36	4.34	0.66	37.30	49.7	47.08
	27.68	31.52	3.38	0.85	37.22	52.4	43.58
	29.60	30.20	3.56	0.77	38.64	52.1	42.89
	29.64	30.80	4.00	0.97	35.40	52.0	43.00
	32.20	29.88	3.64	1.02	34.28	51.4	44.07
	25.00	30.00	3.94	0.92	34.28	50.7	49.79

## D. O'SULLIVAN, INSPECTOR.

	27.20	41.28	3.72	0.65	27.80	50.9	38.70
	24.88	34.24	3.50	0.60	37.38	52.8	45.38
	26.24	35.04	3.36	0.78	30.30	50.4	47.30
	28.12	35.00	3.08	0.76	35.20	53.0	46.74
	29.00	32.20	3.12	0.40	35.08	52.3	45.74
	28.16	32.00	3.12	0.72	36.72	50.9	44.54
	29.36	32.00	3.36	0.75	34.68	52.0	46.00
	28.00	31.70	3.44	0.79	36.21	51.9	44.47
	30.68	28.72	3.28	0.70	37.32	52.3	41.43
	28.48	33.80	2.90	0.81	34.82	50.0	47.26
	28.20	34.88	3.00	0.75	33.92	52.0	48.38
	28.36	32.96	3.52	0.92	35.16	50.7	46.00
	31.00	29.00	3.60	0.82	36.40	50.8	42.03
	29.68	32.92	3.44	1.00	33.96	52.5	46.81
	23.48	36.08	3.62	1.06	36.82	50.2	47.15



APPENDIX V.

BULLETIN No. 172—GROUND COFFEE.

OTTAWA, January 18, 1909.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 449 samples, purchased by our inspectors throughout the Dominion as ground coffee in October last. The following synopsis give a concise statement of the results of analysis, which will be found *in extenso*, in the accompanying table.

Inspectoral District.	Genuine.	Adulterated.	Sold as Compound	Total.
Nova Scotia.	20	8	2	30
Prince Edward Island	22	3	5	30
New Brunswick	30	0	0	30
Quebec	16	14	0	30
St. Hyacinthe	26	4	0	30
Montreal	27	2	1	30
Ottawa	26	3	1	30
Kingston	26	4	0	30
Toronto	26	4	0	30
London	28	1	0	29
Windsor	29	1	0	30
Manitoba	29	0	1	30
Calgary	30	0	0	30
Vancouver	29	1	0	30
Victoria	27	0	3	30
	391	45	13	449

Of the collection in question there are found :

	Per cent.
Genuine	87·1
Adulterated	10·0
Sold as Compound	2·9
	100·0



## SESSIONAL PAPER No. 14

Adulteration consists, as on former occasions, of addition of roasted cereals, or of chicory, or of both cereals and chicory to coffee, without acknowledgment of the fact.

The last previous inspection of ground coffee was made in January, 1904, and the results are published in Bulletin No. 100.

These are briefly as follows:—

	Samples.
Genuine .....	45
Adulterated .....	19
Doubtful .....	8
Sold as Compound.....	3
Total .....	75

The genuine samples formed 60 per cent of the whole collection, as contrasted with 87·1 per cent genuine samples in the present collection. This would seem to indicate a great improvement in the matter of truthfulness to name so far as coffee is concerned, during the past five years.

It may be well to note that in 45 cases registered in the present report as adulterated under the Act, 21 cases are technically adulterated by containing chicory without acknowledgment of the fact; while 24 cases contain roasted grains, with or without chicory; no additions of foreign matter being acknowledged.

I think it fair to point out that while technical adulteration exists in both classes of cases, a very plausible defence, and one that carries a certain moral weight, may be set up for the unacknowledged presence of small percentages of chicory, while none at all can be advanced for addition of roasted cereals. Many coffee consumers are accustomed to using coffee containing small percentages of chicory, and would be likely to complain did their grocer fail to add the chicory. Hence the retail grocer becomes accustomed to such addition, and one can well understand how a subordinate may consider himself as doing no more than habit and duty require, in adding an ounce or so of chicory to the pound of coffee. He is only furnishing such an article as he believed his customer wanted.\*

No such explanation can be given for addition of roasted grain to coffee; this is simply fraud, unless the addition be acknowledged.

I beg to recommend the publication of this report as Bulletin No. 172.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,  
*Chief Analyst.*

\* While the plea suggested above may be urged with some plausibility where small percentage of chicory are present, it cannot be so urged in cases like No. 34427 (p. 10) and No. 34458 (p. 12) when more than 20 per cent is present.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF NOVA SCOTIA—						
1908.						
Oct. 13	Ground Coffee..	33758	F. J. Moxley, Sydney, N.S...	1	30	Chase & Sanborn, Montreal..
" 13	"	33759	Crowell's, Ltd., Sydney, N.S..	1	25	Pure Gold Co., Toronto.....
" 15	"	33760	G. H. & R. Crow, Truro, N.S.	1	30	Chase & Sanborn, Montreal..
" 15	"	33761	Ryan Bros., Truro, N.S. ....	1	40	" " ..
" 16	"	33762	Eaton & Co., Canning, N.S...	1	35	" " ..
" 17	"	33763	J. W. Dodge & Son, Windsor, N.S.	1	35	W. H. Schwartz & Son, Halifax, N.S.
" 17	"	33764	M. N. Davison, Windsor, N.S.	1	40	Chase & Sanborn, Montreal..
" 19	"	33765	W. J. Hopgood & Son, Halifax, N.S.	$\frac{1}{2}$	20	" " ..
" 19	"	33766	E. Donahoe & Son, Halifax, N.S.	$\frac{1}{2}$	15	Unknown.....
" 19	"	33767	J. D. Stewart, Halifax, N.S...	$\frac{1}{2}$	13	Chase & Sanborn, Montreal..
" 20	"	33768	H. L. Hallett, Halifax, N.S...	$\frac{1}{2}$	18	Bauld Bros., Halifax, N.S...
" 20	"	33769	R. B. Adams & Co., Halifax, N.S.	$\frac{1}{2}$	15	John Tobin & Co., Halifax, N.S.
" 21	"	33770	Knock & Nicolle, Halifax, N.S.	$\frac{1}{2}$	15	A. P. Torrens, Halifax, N.S.
" 21	"	33771	G. B. Maling & Co., Halifax, N.S.	$\frac{1}{2}$	15	Todhunter & Mitchell, Toronto, Ont.
" 21	"	33772	Creig & Hodgson, Halifax, N.S.	$\frac{1}{2}$	15	C. H. Cochrane, Ottawa....
" 21	"	33773	G. E. Pullicover & Son, Halifax, N.S.	$\frac{1}{2}$	12	Unknown .....
" 21	"	33774	G. H. Emmett, Halifax, N.S.	$\frac{1}{2}$	10	" .....
" 21	"	33775	C. Davis, Halifax, N.S.....	$\frac{1}{2}$	15	" .....
" 22	"	33776	W. P. Mosely, Dartmouth, N.S.	$\frac{1}{2}$	15	Bauld Bros., Halifax, N.S...
" 22	"	33777	A. Forsythe, Dartmouth, N.S.	$\frac{1}{2}$	15	A. P. Torrens, Halifax, N.S..
" 22	"	33778	E. M. Walker, Dartmouth, N.S.	$\frac{1}{2}$	20	Bower & Bartlett, Boston, Mass.
" 22	"	33779	A. W. Huxtable, Dartmouth, N.S.	$\frac{1}{2}$	15	Robt. Greig Co., Toronto....
" 22	"	33780	Colin McNab, Dartmouth, N.S.	$\frac{1}{2}$	15	A. P. Torrens, Halifax, N.S.
" 22	"	33781	B. O. Bishop, Dartmouth, N.S.	$\frac{1}{2}$	15	C. H. Cochrane, Ottawa....
" 22	"	33782	S. Tomson, Dartmouth, N.S...	$\frac{1}{2}$	18	A. P. Torrens, Halifax, N.S.
" 22	"	33783	Wm. Moore, Halifax, N.S....	$\frac{1}{2}$	13	" " ..
" 22	"	33784	Jas. Scott & Co., Halifax, N.S.	$\frac{1}{2}$	20	Chase & Sanborn, Montreal .
" 22	"	33785	J. R. Siteman & Co., Halifax, N.S.	$\frac{1}{2}$	15	Unknown .....
" 22	"	33786	A. P. Torrens, Halifax, N.S...	$\frac{1}{2}$	20	A. P. Torrens, Halifax, N.S.
" 28	"	33787	J. P. Buckley, Halifax, N.S...	$\frac{1}{2}$	12	" " ..



SESSIONAL PAPER No. 14

COFFEE.

RESULTS OF ANALYSIS.			
Inspector's Report.	Microscopical Examination.	10 grm of 10 per cent extract.	Remarks, and Opinion of the Chief Analyst.
			None... Genuine.
Not sold as high grade...			
Ground by vendor		1.0094	
..... Roasted grain			Starch... Adulterated.
Ground by vendor			None... Genuine.
			"
Not sold as pure coffee.			Sold as compound.
		1.0091	Genuine.
..... Roasted grain and chicory.....			Starch... Adulterated.
		1.0102	None... Genuine.
			Starch... Adulterated.
Labelled special blend.		1.0083	None... Genuine.
..... Chicory.		1.0130	Contains from 15 to 20 p.c. chicory. Adulterated. Genuine.
		1.0098	
..... Roasted grain			Starch... Adulterated.
			"
Ground by vendors			None... Genuine.
		1.0086	"
Not sold as pure coffee.	..... Roasted grain.		Starch... Sold as compound.
Ground by vendors			None... Genuine.
		1.0090	"
..... Roasted grain			Starch... Adulterated.
			None... Genuine.
			"
			"
..... Roasted grain			Starch... Adulterated.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF PRINCE EDWARD ISLAND—						
1908.						
Oct. 28	Ground Coffee..	31336	W. H. Hood, Tryon, P.E.I....	½ lb ..	14	Carvell Bros., Charlottetown.
" 28	" ..	31337	J. T. Lord, North Tryon .....	½ " ..	20	Dearborn & Co., St. John, N.B.
" 29	" ..	31338	D. S. McQuarrie, Crapaud....	½ " ..	19	Carvell Bros., Charlottetown.
Nov. 2	" ..	31339	Sanderson & Co., Charlotte-town.	½ " ..	20	Sanderson & Co., Charlotte-town.
" 2	" ..	31340	Jenkins & Son, Charlottetown.	½ " ..	20	Jenkins & Son, Charlottetown
" 2	" ..	31341	A. Gates & Co., Charlottetown	½ " ..	20	A. Gates & Co., Charlotte-town.
" 2	" ..	31342	Stewart & Son, Charlottetown.	½ " ..	20	Stewart & Son, Charlotte-town.
" 3	" ..	31343	R. F. Maddigan, Charlotte-town.	½ " ..	20	R. T. Maddigan, Charlotte-town.
" 4	" ..	31344	L. C. Worthy, Charlottetown.	½ " ..	20	L. C. Worthy, Charlottetown
" 4	" ..	31345	John Cameron, Charlottetown	½ " ..	15	Chase & Sanborn, Montreal..
" 4	" ..	31346	John Wheatley, Charlottetown	½ " ..	20	W. H. Schwarts & Son, Halifax.
" 5	" ..	31347	Thos. E. Birch, Alberton.....	½ " ..	15	Hudon, Hebert & Co., Montreal.
" 5	" ..	31348	Benj. Rogers, Alberton. . . .	½ " ..	17	W. H. Schwarts & Son, Halifax.
" 6	" ..	31349	J. H. Myrick & Co., Tignish..	½ " ..	20	J. H. Myrick, & Co., Tignish
" 6	" ..	31350	H. W. Turner, O'Leary.....	½ " ..	16	Robt. Greig & Co., Ltd., Toronto.
" 6	" ..	31351	R. T. Holman & Co., Ltd., Summerside.	½ lb ..	20	R. T. Holman & Co., Summerside.
" 6	" ..	31352	F. W. Strong, Summerside ...	½ " ..	23	Chase & Sanborn, Montreal..
" 6	" ..	31353	W. Y. Lidstone, Summerside.	½ " ..	20	Snowdon, Forbes & Co., Montreal.
" 7	" ..	31354	J. H. Lock, Summerside.....	½ " ..	20	Pure Gold Mfg. Co., Toronto
" 7	" ..	31355	W. G. Warren, Summerside..	½ " ..	20	H. Beer, Agent, Summerside
" 7	" ..	31356	Brace & McKay, Summerside.	½ " ..	18	Brown & Bartlett, St. John .
" 7	" ..	31357	J. H. Hynes, Kensington ..	½ " ..	16	N. Rattenbury, Charlotte-town.
" 7	" ..	31358	R. Tuplin & Co., Kensington..	½ " ..	15	Carvell Bros., Charlottetown
" 13	" ..	31359	David Bull, Murray Harbour.	½ " ..	18	J. A. Farquharson, Charlotte-
" 14	" ..	31360	A. M. Ross, Murray River....	½ " ..	18	Laporte, Martin & Co., Montreal.
" 14	" ..	31361	J. D. Hume, Murray River....	½ " ..	20	Pure Gold Mfg. Co., Toronto
" 14	" ..	31362	James H. C. Moore, Eldon....	½ " ..	20	Carvell Bros., Charlottetown.
" 18	" ..	31363	H. A. Dunbar, Charlottetown.	½ " ..	20	Maryell & Co., Toronto .....



SESSIONAL PAPER No. 14

COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.			Remarks, and Opinion of the Chief Analyst.
	Microscopical Examination.	Sp. gr. of 10 per cent Extract.	Iodine Reac- tion for Starch.	
T. MOORE, INSPECTOR.				
Compound Java. . . . .			None . . .	Genuine.
XXX Choice Java Mocha Chicory . . . . .		1.0130		Contains from 15 to 20 p.c. chicory. Adulterated. . .
Coffee beans from Dearborn & Co., St. John, N.B.				Genuine.
Coffee beans from Chase & Sanborn, Montreal.				
Coffee beans from Pure Gold Mfg. Co., Toronto.		1.0094		
Coffee beans from Chase & Sanborn, Montreal.				
Halifax Steam Coffee and Roasted grain. Spice Mills. Eng. brand fast coffee compound.			Starch. .	Sold as compound.
This coffee is mixed with other ingredients. Brand. "Mountain Jamaica "			None	Genuine.
Coffee beans from Pure Gold Mfg. Co.				Sold as compound.
Star Blend Coffee. . . . .	Roasted grain. . . . .		Starch. .	Genuine.
Coffee beans from Chase & Sanborn, Mocha and Java			Starch. .	Adulterated.
Under this seal coffee guar- anteed for purity.			None . .	Genuine.
Guaranteed absolutely pure, a blend of selected coffees of highest grades.				
Pure gold. A hand picked coffee.				
High grade coffee and teas, the taste tells.				
XXX Choice Java and Mocha.				
Choice Java and Mocha.				
Compound Java Coffee. . . . .	Chicory. . . . .	1.0114		Contains about 10 p.c. chic- ory. Sold as compound.
Perfect Blend Coffee. . . . .	Roasted grain . . . . .		Starch. .	Adulterated.
Sold only in original pack- ages.			None . .	Genuine.
Old Government Java Coffee				
Victoria Blend Coffee. Sold as a combination of coffee and chicory.				Sold as compound.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF PRINCE EDWARD ISLAND—						
1908						
Nov. 18	Ground Coffee..	31364	P. L. Smallwood, Charlotte-town.	½ lb..	20	W. H. Schwarts, Halifax, N.S.
" 18	" ..	31365	S. T. McLeod, Charlottetown.	½ " ..	20	Baker & Co., New York.....
DISTRICT OF NEW BRUNSWICK—						
Oct. 7	Ground Coffee..	29769	Dearborn & Co., St. John, N.B.	½ lb ..	25	Dearborn & Co., St. John, N.B.
" 7	" ..	29770	H. W. Cole Co., Ltd., St. John, N.B.	½ " ..	20	H. M. Cole Co., Ltd., St. John, N.B.
" 7	" ..	29771	G. E. Barbour Co., Ltd., St. John, N.B.	½ " ..	20	G. E. Barbour Co., Ltd., St. John, N.B.
" 8	" ..	29772	James Moulson, St. John, N.B.	½ " ..	20	Vendor .. . . . . .
" 8	" ..	29773	The 2 Barkers, Ltd., St. John, N.B.	½ " ..	25	Vendors..... . . . .
" 9	" ..	29774	Raymond MacKinnon, Fairville, St. John Co., N.B.	½ " ..	20	" Woods Boston Coffee " ....
" 12	" ..	29775	H. R. Coleman, St. John, N.B.	½ " ..	20	Humphreys Roasted Bean...
" 12	" ..	29776	Charles A. Metz, St. John, N.B.	½ " ..	20	Bowman & Cole, St. John, N.B.
" 13	" ..	29777	Guy H. Humphrey, St. John, N.B.	½ " ..	20	Vendor .. . . . . .
" 13	" ..	29778	E. M. Rowley, St. John, N.B.	½ " ..	20	Chase & Sanborn, Montreal, P.Q.
" 13	" ..	29779	Mrs. A. M. Coday, St. John, N.B.	½ " ..	20	Baird & Peters, St. John, N.B.
" 13	" ..	29780	W. R. Small, St. John, N.B.	½ " ..	20	Chase & Sanborn, Montreal..
" 14	" ..	29781	John Henry Walker, St. John, N.B.	½ " ..	20	H. C. Edmonds Co., Boston, Mass.
" 14	" ..	29782	J. A. Lipsett, St. John, N.B.	½ " ..	20	" " ..
Nov. 5	" ..	29783	N. W. Eveleigh & Co., Sussex King's Co., N.B.	½ " ..	20	C.H.Cochrane & Co., Ottawa, Ont.
" 5	" ..	29784	Sussex Mercantile Co., Ltd., Peticodiac, N.B.	½ " ..	20	Chase & Sanborn, Montreal.
" 6	" ..	29785	Geo. A. Robertson, Moncton, N.B.	½ " ..	20	Bower & Bartlett, Boston, Mass.
" 7	" ..	29786	Miller Bros., Newcastle, N.B.	½ " ..	20	Thomas Wood & Co., Montreal.
" 10	" ..	29787	J. B. Snowball Co., Ltd., Chatham, N.B.	½ " ..	20	Chase & Sanborn, Montreal..
" 11	" ..	29788	A. Normand des Brisay, Bathurst, N.B.	½ " ..	20	Bower & Bartlett, Boston ...
" 12	" ..	29789	Moones Bros., Campbellton, N.B.	½ " ..	20	C. H. Cochrane & Co., Ottawa
" 12	" ..	29790	B. N. Mowat, Campbellton, N.B.	½ " ..	20	Horace Cole & Co., St. John, N.B.
" 18	" ..	29791	H. C. Jewett, Fredericton, N.B.	½ " ..	20	S. H. Ewing & Son, Montreal
" 18	" ..	29792	E. G. Hoben, Fredericton, N.B.	½ " ..	20	H. C. Edmonds Coffee Co., Boston.
" 19	" ..	29793	J. W. Dalling, Woodstock, N.B.	½ " ..	20	I. E. Teed, Woodstock, N.B.



## SESSIONAL PAPER No. 14

## COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.		Remarks, and Opinion of the Chief Analyst.
	Microscopical Examination.	Per cent of extract.	Line for tartrate.
<b>T. MOORE, INSPECTOR--Concluded.</b>			
Beans, imported, and ground by vendors, compound.			
Beans, "Thistle Brand," free from coffee dust and chaff.			
<b>J. C. FERGUSON, INSPECTOR.</b>			
Diamond Blend, Mocha and Java. Ground by vendors, "Thistle Brand."			
Beans imported. Roasted and ground by vendors.			
Ground by vendors.		1.0091	
		1.0087	" ...
		1.0081	" ...
Roasted and ground by vendor.		1.0097	
			" ...
Blend, "Standard Blend," Chase & Sanborn. Ground by vendors.			
Edmond's "Boston Coffee."		1.0096	" ...
Ground by vendors as required.			" ...
			" ...
Ground by vendor.....		1.0087	
Ground by vendors.....			" ...
Blend, Mocha and Java. Ground by vendors.....		1.0099	" ...
".....			" ...
".....			" ...
Diamond E Blend, ground by vendor.....			" ...
Ground by vendors.....			" ...
Ground by vendor.....			" ...



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	COST.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF NEW BRUNSWICK—						
1908.						
Nov. 19	Ground Coffee..	29794	Townsend & Hayden, Woodstock, N.B.	½ 10...	20	Thos. Wood & Co., Boston..
" 21	" ..	29795	Geo. T. Baird Co., Ltd., Perth, N.B.	½ " ..	20	Bower & Bartlett, Boston, Mass.
" 21	" ..	29796	J. E. Porter & Son, Andover, N.B.	½ " ..	20	G. E. Barbour & Co., Ltd., St. John, N.B.
" 23	" ..	29797	Jas. Burgess & Sons, Ltd., Grand Falls, N.B.	½ " ..	20	Chase & Sanborn, Montreal..
" 23	" ..	29798	P. Lagacy, Grand Falls, N.B.	½ " ..	20	G. E. Barbour & Co., St. John, N.B.
DISTRICT OF QUEBEC—						
Oct. 9	Ground Coffee...	34417	Jos. Gammond, St. Jean Pont Joli.	½ lb ..	20	A. E. Vallerand, Quebec. . .
" 10	" ..	34423	Moise Rosa, Trois Saumon....	½ " ..	20	Lavoie & Dion, Quebec.....
" 10	" ..	34425	Emile Cloutier, Trois Saumon.	½ " ..	20	A. Carrier & fils., Levis.....
" 10	" ..	34427	Arthur Caron, Trois Saumon..	½ " ..	15	W. D. Stroud&Son, Montreal
" 10	" ..	34430	Mad. Louis Morneau, St. Jean Pont Joli.	½ " ..	18	Joseph & Son, Quebec... . .
" 12	" ..	34434	Emile Blanchet, St. Aubert...	½ " ..	20	Lavoie & Dion, Quebec.....
" 12	" ..	34435	A. D. Arsenault, St. Aubert..	½ " ..	18	S. H. Ewing & Son, Montreal
" 13	" ..	34436	Felix Bélanger, St. Damasse..	½ " ..	15	Unknown.....
" 14	" ..	34437	Flavien Choinard, St. Pamphile	½ " ..	20	" ..
" 14	" ..	34438	Alfred Caron, St. Pamphile...	½ " ..	20	N. Turcotte & Cie., Quebec..
" 14	" ..	34439	Joseph Cloutier, St. Pamphile.	½ " ..	20	Lavoie & Dion, Quebec.....
" 15	" ..	34440	Sauveur Duval, Elgin Road...	½ " ..	15	S. H. Ewing & Son, Montreal
" 15	" ..	34441	Alphonse Levesque, St. Louise	½ " ..	15	N. Turcotte & Co., Quebec ..
" 15	" ..	34442	Arthur Marier, St. Louise....	½ " ..	15	" ..
" 15	" ..	34443	A. Tardiff, St. Louise.....	½ " ..	18	S. H. Ewing & Son, Montreal
" 15	" ..	34444	P. Hamel & Cie., Village des Aulnaies.	½ " ..	20	Lavoie & Dion, Quebec.....
" 15	" ..	34445	Magloire Francoeur, St. Roch des Aulnaies.	½ " ..	20	N. Turcotte & Cie., Quebec..
" 15	" ..	34446	Archile Marier, St. Roch des Aulnaies.	½ " ..	20	" ..
" 15	" ..	34447	Mad. Archile Peltier, St. Roch des Aulnaies.	½ " ..	15	Leclerc & Letellier, Quebec..
" 16	" ..	34448	Elzéar Caron, L'Islet ..	½ " ..	13	Lavoie & Latulippe, Quebec..
" 16	" ..	34449	" ..	½ " ..	20	" ..
" 16	" ..	34451	J. A. Dionne, L'Islet. . .	½ " ..	20	N. Rioux & Cie., Quebec....
" 16	" ..	34452	Irénie Allard, L'Islet.....	½ " ..	18	J. B. Bedard, Quebec.....



SESSIONAL PAPER No. 14

## GROUND COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.
	Microscopical Examination.	Sp. gr. of 10 per cent Extract.	Iodine Reac- tion for Starch.	

J. C. FERGUSON, INSPECTOR—*Concluded.*

Ground by vendors		None	Genuine
Red Shield Brand, ground by vendors.		Whole coffee.	
Acord Brand, ground by vendors.		None	
"Seal Brand"		1.0090	"
"			

E. BELAND, INSPECTOR.

Chicory	1.0116	None	Contains about 10 p. c. chi- cory. Adulterated.
Roasted grain		Starch	Adulterated.
		None	Genuine.
Chicory	1.0153		Contains from 25 to 30 p. c. Chicory. Adulterated.
			Genuine.
Roasted grain and chicory		Starch	Adulterated.
Roasted grain			"
Roasted grain and chicory			"
		None	Genuine.
Small amount of roasted grain		Starch	Adulterated.
Roasted grain and chicory		"	"
		None	Genuine.
			"
Roasted grain		Starch	Adulterated.
Small amount of roasted grain		"	"
		None	Genuine.
		"	"
Chicory	1.0129	"	Contains from 15 to 20 p. c. chicory. Adulterated.
Roasted grain		Starch	Adulterated.
"		"	"
		None	Genuine.
	1.0090	"	"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF QUEBEC—						
1908.						
Oct. 16	Ground Coffee..	34455	O. Corbonneau, L'Islet Station	$\frac{1}{2}$ lb...	20	Ed. Marceau, Ltd., Montreal
" 16	" ..	34457	Alphonse Lavoie, St. Eugene.	$\frac{1}{2}$ " ..	20	Langlois & Paradis, Quebec..
" 16	" ..	34458	Francois Déchêne fils., St. Eugene.	$\frac{1}{2}$ " ..	15	Turcotte & Frere, Quebec....
" 17	" ..	34459	J. F. M. Déchêne, St. Eugene.	$\frac{1}{2}$ " ..	20	" " ..
" 17	" ..	34460	Eugene Métivier, St. Cyrille..	$\frac{1}{2}$ " ..	13	N. Turcotte & Cie., Quebec..
" 17	" ..	34462	Irénée Lord, St. Cyrille.....	$\frac{1}{2}$ " ..	15	Unknown.....
" 17	" ..	34463	Charle Elore Caron, St. Aubert	$\frac{1}{2}$ " ..	20	Leclerc & Letellier, Quebec..
DISTRICT OF ST. HYACINTHE—						
Oct. 8	Ground Coffee..	801	G. Paulin, Notre Dame West, Montreal.	$\frac{1}{2}$ lb ..	18	J. A. Mathewson & Co., Montreal.
" 8	" ..	802	N. Vincent, 1093 St. Antoine W., Montreal.	$\frac{1}{2}$ " ..	20	.....
" 8	" ..	803	Russells Market, St. Catherine W., Montreal.	$\frac{1}{2}$ " ..	20	Chase & Sandborn, Montreal
" 8	" ..	804	T. A. Wood & Co., Montreal..	$\frac{1}{2}$ " ..	20	Tamiekande Tea Co., Montreal.
" 9	" ..	805	T. Elliott, Montreal . . . . .	$\frac{1}{2}$ " ..	20	J. A. Mathewson & Co., Montreal.
" 9	" ..	806	C. Spector & Co., Montreal...	$\frac{1}{2}$ " ..	15	T. Wood & Co., Montreal....
" 12	" ..	807	Gideon Coté, St. Agathe des Monts.	$\frac{1}{2}$ " ..	20	L. Chaput fils & Co., Montreal.
" 13	" ..	808	J. B. Gougeon, St. Jerome....	$\frac{1}{2}$ " ..	20	Hudson & Orsali, Montreal..
" 13	" ..	809	D. Mure & Cie., St. Jérôme...	$\frac{1}{2}$ " ..	20	.....
" 14	" ..	810	E. Joly, Joliette.....	7 oz..	14	J. J. Sournis, Joliette. ....
" 14	" ..	811	J. J. Sournis, Joliette.....	$\frac{1}{2}$ lb ..	20	Thos. Wood & Co., Montreal
" 14	" ..	812	J. A. Paquin, St. Eustache....	$\frac{1}{2}$ " ..	20	L. Chaput fils & Co., Montreal.
" 15	" ..	813	J. P. Lacroix, St. Lin.....	$\frac{1}{2}$ " ..	13	Aug. Comte & Cie., Montreal
" 15	" ..	814	K. Manahan, St. Lin. . . . .	$\frac{1}{2}$ " ..	18	Not known.. .. .
" 15	" ..	815	D. Boyeur, St. Thérèse de Blainville.	$\frac{1}{2}$ " ..	20	" .. .
" 16	" ..	816	J. N. Laurin, Beaurivage, Longue Pointe.	$\frac{1}{2}$ " ..	18	J. Boudrias, Montreal.....
" 16	" ..	817	A. McNeil, 440 Bourbonniere, Maisonneuve.	$\frac{1}{2}$ " ..	18	Not known.....



## SESSIONAL PAPER No. 14

## GROUND COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
	Microscopical Examination.	Sp. gr. of 10 per cent Extract.  Water Red- uction for Starch.	
E. BELAND, INSPECTOR— <i>Concluded.</i>			
		None.	Genuine.
		1.0179	" ... Contains from 15 to 20 p.c. chicory. Adulterated.
		1.0089	" ...
J. C. ROULEAU, INSPECTOR.			
		None.	Genuine.
Owl Blend Coffee. The Vendor wrote the word Compound on the bag containing the coffee but did not state it was a mixture.			
Ground by themselves and put in ½ lb. packages.			"
Ground by themselves.			"
		1.0091	
		1.0098	
Specially roasted and packed for P. S. Doyle & Co., Montreal.			
Chicory		1.0132	Contains from 15 to 20 p.c. chicory. Adulterated.
Wo-Bo. Co. Ground when delivered.			Genuine.
Chicory		1.0132	Contains from 15 to 20 p.c. chicory. Adulterated.
Cafe de Choix.....	Roasted grain in small quantity	Starch.	Adulterated.
Ground in my presence.....		None.	Genuine.
		"	"
		"	"
From two different parties, marked Pure Rio, warranted by Chase & Sanborn, Montreal.		"	"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF ST. HYACINTHE—

1908.						
Oct.	21	Ground Coffee..	818 J. Witman, Lachine .....	$\frac{1}{2}$ lb..	20	Laporte, Martin & Cie, Montreal.
"	21	" ..	819 M. Charette, Lachine .....	$\frac{1}{2}$ " ..	20	" " ..
"	22	" ..	820 D. Gagnon, Sault Recollet ....	$\frac{1}{2}$ " ..	20	J. A. Simard & Co., Montreal
"	22	" ..	821 O. Mercier, Sault Recollet ..	$\frac{1}{2}$ " ..	15	Hudon, Hebert & Cie, Montreal.
"	28	" ..	822 J. H. Bastien, 527 Laurier Av., Montreal.	$\frac{1}{2}$ " ..	20	S. H. Ewing & Co., Montreal
"	28	" ..	823 Jos. Leduc, 204 Carrieres, Montreal	$\frac{1}{2}$ " ..	20	" " ..
"	28	" ..	825 E. Smith, 1344 St. Andre... ..	$\frac{1}{2}$ " ..	20	Nat. Coffee and Spice Co. Montreal.
"	29	" ..	826 Jos. Charette, Valleyfield.....	$\frac{1}{2}$ " ..	20	.....
"	29	" ..	827 Rowland Hill Co., Valleyfield. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	C. H. Cochrane, Ottawa, Ont.
"	29	" ..	828 S. Brunette, Coteau Landing.. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	S. H. Ewing & Co., Montreal
"	29	" ..	829 R. Duckett, Coteau Landing.. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	15	Laporte, Martin et Cie, Montreal.
"	30	" ..	830 Jos. Riopel, 31 Houle, Montreal.	6 oz..	15	L. Chaput fils et Cie, Montreal.
"	30	" ..	831 C. Creeley, 140 Centre, Montreal.	$\frac{1}{2}$ lb ..	20	J. Rutherford, Montreal ....

DISTRICT OF MONTREAL—

Oct.	8	Ground Coffee..	32701 J. O. Fagan, Sorel, P.Q. ....	$\frac{1}{2}$ lb ..	20	Ground by vendor.....
"	8	" ..	32702 A. R. Goulet, Sorel, P.Q.....	$\frac{1}{2}$ " ..	20	C. Labelle, Sorel, P.Q.....
"	8	" ..	32703 L. H. Paquin & Co., Sorel, P.Q.	$\frac{1}{2}$ " ..	20	Laport, Martin & Co., Ltd..
"	9	" ..	32704 Biron & Blouin, Sherbrooke... $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	Ground by vendor.....
"	9	" ..	32705 W. D. Murray, Sberbrooke... $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	Chase & Sanborn, Montreal..
"	9	" ..	32706 Hebert & Fortier, Sherbrooke. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	15	C. H. Cochrane & Co... ..
"	9	" ..	32707 J. E. Blais, Sherbrooke.....	$\frac{1}{2}$ " ..	20	Not given .....
"	10	" ..	32708 R. L. Cross, Richmond, P.Q.. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	.....
"	13	" ..	32709 J. B. St. Pierre, St. Hyacinthe $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	.....
"	13	" ..	32710 A. Clapin, St. Hyacinthe.....	$\frac{1}{2}$ " ..	13	.....
"	14	" ..	32711 David Hebert, Drummondville, P.Q. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	25	Not known.....
"	14	" ..	32712 J. Moisan, Drummondville, P.Q. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	J. A. Mathewson & Son, Montreal.
"	14	" ..	32713 J. N. Tarcotte, Drummondville, P.Q. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	.....
"	15	" ..	32714 J. E. Caouette, Thetford Mines, P.Q. $\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	20	Not known.....



SESSIONAL PAPER No. 14

GROUND COFFEE.

RESULTS OF ANALYSIS.			
Inspector's Report.	Microscopical Examination.	Sp. gr. of 10 per cent Extract.	Iodine Reaction for Starch.
			Remarks, and Opinion of the Chief Analyst.

J. C. ROULEAU, INSPECTOR—*Concluded.*

Pure Mocha, warranted by Chase & Sanborn, Montreal.			None... Genuine
.....			"
.....			"
.....			"
.....		1.0085	"
.....			"
..... Chicory .....		1.0131	Contains from 10 to 15 p.c. chicory. Adulterated.
Pure Java Coffee, Dalton Bros., Toronto.			Genuine.
.....			"
Ground in my presence.			"
Pure Maracubo			"
Owl Brand Coffee			"
.....		1.0090	"

J. J. COSTIGAN, INSPECTOR.

.....			None... Genuine
..... Chicory .....		1.0121	" ... Contains from 10 to 15 p.c. chicory. Adulterated.
.....			" ... Genuine.
.....			"
.....			"
.....			"
.....			"
Ground by vendor..			"
" .....			"
Put up in packets by vendor .....			"
.....			"
.....		1.0090	"
Ground by vendor .....			"
.....			"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF MONTREAL—						
1908.						
Oct. 15	Ground Coffee..	32715	Roberge & Roberge, Thetford Mines, P.Q.	$\frac{1}{2}$ "	20	.....
" 15	"	32716	Alphonse Blais, Thetford Mines, P.Q.	$\frac{1}{2}$ "	15	Not known..
" 15	"	32717	C. J. Lane, Lennoxville, P.Q.	$\frac{1}{2}$ "	20	.....
" 15	"	32718	Geo. Bolduc, Lennoxville, P.Q.	$\frac{1}{2}$ "	20	F. A. Bourque, Sherbrooke..
" 15	"	32719	Joseph Masson, Danville, P.Q.	$\frac{1}{2}$ "	20	Chase & Sanborn .....
" 15	"	32720	Jas. McCoy, Danville, P.Q.	$\frac{1}{2}$ "	20	L. Chaput fils & Co. ....
" 19	"	32721	J. E. Menard, Farnham, P.Q.	$\frac{1}{2}$ "	20	F. F. Dally Co., Ltd.....
" 19	"	32722	P. Larochelle, Farnham, P.Q.	$\frac{1}{2}$ "	20	Not known.....
" 19	"	32723	F. X. Giroux, Farnham, P.Q.	$\frac{1}{2}$ "	20	J. Mathewson & Co., Montreal.
" 20	"	32724	N. Taillefer, Granby, P.Q.	$\frac{1}{2}$ "	20	Dom. Coffee and Spice Mills Co., Montreal.
" 20	"	32725	Isabelle & Rivet, Granby, P.Q.	$\frac{1}{2}$ "	20	Not given ..
" 20	"	32726	M. Mercure et fils, Granby, P.Q.	$\frac{1}{2}$ "	18	E. D. Marceau, Montreal....
" 20	"	32727	C. Vincent, Grandry, P.Q.	$\frac{1}{2}$ "	18	Not known...
" 20	"	32728	R. W. Bradford, Granby, P.Q.	$\frac{1}{2}$ "	20	Chase & Sanborn, Montreal..
" 20	"	32729	H. L. M. Vaudry, Waterloo, P.Q.	$\frac{1}{2}$ "	20	Thos. Woods Co., Montreal .
" 20	"	32730	Gilmour & Girard, Waterloo, P.Q.	$\frac{1}{2}$ "	20	.....
DISTRICT OF OTTAWA—						
Sept. 30	Ground Coffee..	22689	C. S. Northcott, Vankleek Hill.	1 lb	45	Ground by vendor.....
Oct. 1	"	22690	M. Gorman, Eganville.....	$\frac{1}{2}$ "	20	Not known.....
" 1	"	22691	D. Lacey & Son, Eganville...	$\frac{1}{2}$ "	20	Ground by vendor.....
" 1	"	22692	H. Dover, Eganville.....	$\frac{1}{2}$ "	20	W. Galbraith & Son, Montreal.
" 3	"	22693	M. T. Cleland, Kemptville....	$\frac{1}{2}$ "	20	Ground by vendor.....
" 3	"	22694	Mundle & Percival, Kemptville	$\frac{1}{2}$ "	20	Ground by vendors .....
" 3	"	22695	The Anderson Langstaffe Co., Kemptville.	$\frac{1}{2}$ "	20	" .....
" 5	"	22696	W. R. Stroud, Hull, P.Q.....	$\frac{1}{2}$ "	20	Ground by vendor.....
" 5	"	22697	Capital Blend Tea Co., Hull, P.Q.	$\frac{1}{2}$ "	15	Ground by vendors .....
" 6	"	22698	A. J. McAdam, Almonte ...	$\frac{1}{2}$ "	18	Ground by vendor.....
" 6	"	22699	F. W. Robertson, Almonte ...	$\frac{1}{2}$ "	20	" .....



## SESSIONAL PAPER No. 14

## GROUND COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.			Remarks, and Opinion of the Chief Analyst.
	Microscopical Examination.	Sp. gr. of 10 per cent Extract.	Iodine Reac- tion for Starch.	
J. J. COSTIGAN, INSPECTOR— <i>Concluded.</i>				
Ground by vendor..		1.0092	None	Genuine.
Ground by vendor.		1.0099		
		1.0135		Contains about 20 p.c. chic- ory. Adulterated. Genuine.
Mixed by vendor with 10 p. c. of chicory.				Sold as compound
J. A. RICKEY, INSPECTOR.				
Sold as ground coffee.		1.0084	None	Genuine.
	Chicory.	1.0120		Contains from 10 to 15 p.c. chicory. Adulterated. Genuine.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF OTTAWA—

1908.						
Oct.	6	Ground Coffee..	22700 D. J. Dick, Almonte .....	½ lb ..	20	" .....
"	7	" ..	22749 W. C. Edwards & Co., Rockland.	½ " ..	20	Dalley & Co., Hainilton... .
"	7	" ..	22750 Z. Giroux, Rockland.....	½ " ..	20	S. J. Major, Ltd., Ottawa...
"	7	" ..	22751 J. Charron, Rockland .....	½ " ..	18	Chaput fils & Co., Montreal..
"	9	" ..	22752 MacKay Bros., Renfrew .....	½ " ..	20	Ground by vendors .....
"	9	" ..	22753 P. J. Campbell, Renfrew.....	½ " ..	20	" .....
"	9	" ..	22754 Dempsey & Co., Renfrew. ....	½ " ..	20	" .....
"	9	" ..	22755 J. Cunningham, Arnprior.....	½ " ..	20	Kearney Bros., Montreal....
"	9	" ..	22756 W. M. Howe, Arnprior .....	½ " ..	15	Chase & Sanborn, Montreal..
"	10	" ..	22757 A. F. Dey & Co., Finch .....	½ " ..	18	Ground by venders .....
"	10	" ..	22758 Hugh Fraser & Son, Winchester	½ " ..	18	" .....
"	10	" ..	22759 A. Sweet & Co., Winchester ..	½ " ..	20	" .....
"	10	" ..	22760 J. E. Cook, Winchester.....	½ " ..	20	" .....
"	12	" ..	22761 Farmers Tea Co., Ottawa.....	½ " ..	15	" .....
"	12	" ..	22762 P. Lamoureux, Ottawa .....	½ " ..	20	" .....
"	12	" ..	22763 C. J. Neate, Ottawa.....	½ " ..	18	C. H. Cochrane & Co., Ottawa
"	12	" ..	22764 A. Finkelstein, Ottawa.....	½ " ..	18	Capital Blend Tea Co., Ottawa
"	10	" ..	22765 J. Johnston, Ottawa. ....	½ " ..	15	Ground by Stroud & Co., Ottawa.
"	10	" ..	22766 Wm. York, Ottawa.....	½ " ..	20	Ground by vendor.....

DISTRICT OF KINGSTON—

Oct.	28	Ground Coffee..	36001 F. A. Allan, Kingston.. ....	½ lb ..	18	Chase & Sanborn, Montreal..
"	28	" ..	36002 J. Campbell, Kingston .....	½ " ..	20	Geo. Robertson & Son, Kings- ton.
"	28	" ..	36003 J. Babcock, Kingston .....	½ " ..	15	W. G. Craig, Kingston.....
"	28	" ..	36004 H. M. Stover, Kingston .....	½ " ..	20	Maclean, Kingston.....
"	28	" ..	36005 C. S. Litton, Kingston .....	½ " ..	15	C. H. Cochrane, Ottawa. ....
"	29	" ..	36006 W. J. Nesbitt, Kingston....	½ " ..	15	McLarens, Hamilton.....



## GROUND COFFEE.

[illegible]

JAS. HOGAN, INSPECTOR.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor
				Quantity.	Cents.	
DISTRICT OF KINGSTON—						
1908.						
Oct. 29	Ground Coffee..	36007	F. Ostler, Kingston.....	½ lb..	20	J. H. Lowes, Hamilton .....
" 29	" ..	36008	H. A. Smith, Kingston.....	½ " ..	20	Chase & Sanborn, Montreal. .
" 29	" ..	36009	C. H. Pickering, Kingston...	½ " ..	20	" " ..
" 29	" ..	36010	C. Saunders, Kingston.....	½ " ..	20	" " ..
" 29	" ..	36011	J. Cullen, Kingston....	½ " ..	20	W. G. Craig, Kingston.....
" 29	" ..	36012	Anderson Bros., Kingston ..	½ " ..	20	Hamilton Spice & Coffee Co., Hamilton.
" 29	" ..	36013	E. S. Suddard, Kingston .....	½ " ..	15	Greig, Toronto .....
" 29	" ..	36014	Kirk & Lee, Kingston.....	½ " ..	20	Jas. Rutherford, Montreal...
" 29	" ..	36015	J. Kelly, Kingston.....	½ " ..	20	.....
" 29	" ..	36016	J. Redden, Kingston.....	½ lb..	20	Roasted by vendor ..
" 29	" ..	36017	C. H. Parkin, Kingston .....	½ " ..	15	Roberston & Mecolle, King- ston.
" 29	" ..	36018	H. Shay, Kingston.....	½ " ..	15	Not known ...
" 29	" ..	36019	C. H. Clark, Kingston.....	½ " ..	18	Jas. Redden, Kingston.....
" 29	" ..	36020	D. B. Gage, Kingston....	½ " ..	20	Fenwick & Hendry, King- ston.
" 29	" ..	36021	I. T. Morris, Kingston. ....	½ " ..	20	Geo. Robertson & Son, King- ston.
" 29	" ..	36022	J. Lemmon, Kingston....	½ " ..	15	Dalton Bros., Toronto. ....
" 29	" ..	36023	J. McCulla, Kingston.....	½ " ..	20	S. H. Ewing, Montreal.....
" 29	" ..	36024	P. A. Haffner, Kingston.....	½ " ..	20	J. M. Lowes, Toronto.....
" 29	" ..	36025	Stroud Bros., Kingston. ....	½ " ..	20	Stroud Bros., Montreal. ....
" 29	" ..	36026	George Gibson, Kingston. ....	½ " ..	20	Not known.....
Nov. 2	" ..	36027	Madden Bros., Napanee.....	½ " ..	20	F. F. Dalley, Hamilton.....
" 2	" ..	36028	H. W. Kelly, Napanee. ...	½ " ..	20	Todhunter & Mitchell, Toronto.
" 2	" ..	36029	J. Paisley, Napanee.....	½ " ..	20	" " ..
" 2	" ..	36030	Coxall Co., Napanee. ....	½ " ..	20	Mathsons, Montreal....
DISTRICT OF TORONTO—						
Oct. 12	Ground Coffee..	35169	Mrs. A. Beggs & Sons, Dur- ham.	½ lb..	20	Not known .....
" 13	" ..	35170	John Goos, Walkerton.....	½ " ..	20	Pure Gold Mfg. Co., Ltd. Toronto.



SESSIONAL PAPER No. 14

GROUND COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
	Microscopical Examination.	Sp. gr. of 10 per cent Extract.  Iodine Reac- tion for Starch.	

JAS. HOGAN, INSPECTOR—*Concluded.*

.....	.....	None...	Genuine.
.....	.....	"	"
.....	.....	"	"
.....	.....	"	"
.....	.....	1.0099	"
.....	.....	"	"
.....	.....	"	"
.....	.....	"	"
Roasted by vendor.	.....	"	"
.....	.....	"	"
.....	Roasted grain...	Starch..	Adulterated.
.....	.....	"	"
.....	Chicory .....	1.0124 None...	Contains from 10 to 15 p.c chicory. Adulterated.
.....	.....	"	Genuine.
.....	.....	"	"
.....	Chicory .....	1.0128 ..	Contains from 15 to 20 p.c chicory. Adulterated.
.....	.....	"	Genuine.
.....	.....	"	"
.....	.....	"	"
Coffee was part of stock that Vendor bought. Tin marked S. H. Ewing.	.....	"	"
.....	.....	"	"
.....	.....	1.0096 ..	"
.....	.....	1.0096 ..	"
.....	.....	"	"

H. J. DAGER, INSPECTOR.

Sample taken from tin not labeled.	.....	None...	Genuine.
Sample from tin labeled Pure Gold, hand picked coffee. Asked for best quality.	.....	"	"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF TORONTO—						
1908.						
" 13	Ground Coffee..	35171	J. A. Wells, Southampton....	½ lb..	20	Gorman Eckert Co., Ltd., London.
" 13	" ..	35172	J. M. Wells, Port Elgin.....	½ " ..	20	McLaughlan & Sons & Co., Owen Sound.
" 14	" ..	35173	Mrs. S. Mooney, Paisley. ...	½ " ..	20	Todhunter & Mitchell Co. Toronto.
" 14	" ..	35174	J. O. Hymen, Mildmay .....	½ " ..	20	Gorman Eckert & Co., Ltd., London.
" 15	" ..	35175	Charles Doepel, Hanover.....	½ " ..	20	" " ..
" 15	" ..	35176	James Hope, Chesley ....	½ " ..	20	The Canada Spice & Grocery Co., Ltd., London.
" 16	" ..	35177	H. D. Ruhl, Wiarton ....	½ " ..	15	McPherson Glassco Co., Hamilton.
" 16	" ..	35178	McClarty Bros., Owen Sound.	½ " ..	20	Dumouriez et Fils Compagnie
" 19	" ..	35179	Radcliffe & Co., Stouffville ...	½ " ..	15	J. M. Lowes & Co., Toronto.
" 19	" ..	35180	E. H. Crosby, Marham.....	½ " ..	20	Not known .....
" 20	" ..	35181	J. F. Bowman & Co., Uxbridge	½ " ..	23	Chase & Sanborn, Montreal..
" 20	" ..	35182	F. J. Perrin, Toronto .....	½ " ..	20	Vendor.....
" 21	" ..	35183	Castle Blend Tea Co., Toronto	½ " ..	20	Vendors .....
" 21	" ..	35184	J. Phillips, Toronto .	½ " ..	20	Todhunter & Mitchell, Toronto.
" 21	" ..	35185	Captain Vennell, Toronto.....	½ " ..	20	Eby Blain Co., Ltd., Toronto
" 22	" ..	35186	Geo. D. Gilmore, Toronto.....	½ " ..	20	Todhunter Mitchell & Co., Toronto.
" 22	" ..	35187	Imperial Blend Tea Co., North Hamilton.	½ " ..	20	Chase & Sanborn, Montreal..
" 23	" ..	35188	A. Mundy, North Hamilton..	½ " ..	20	McLarens, Ltd., Hamilton..
" 23	" ..	35189	M. Vanevery, North Hamilton	½ " ..	20	Young, Winfield & Co., Hamilton.
" 23	" ..	35190	D. Etherington, North Hamilton.	½ " ..	20	McLarens, Ltd., Hamilton..
" 23	" ..	35191	Agnus Mundy, North Hamilton	½ " ..	13	Hamilton Coffee & Spice Co., Ltd., Hamilton.
" 23	" ..	35192	Jas. Blake, North Hamilton..	½ " ..	20	W. H. Gillard & Co., Hamilton.
" 23	" ..	35193	Smith & Robitaille, North Hamilton.	½ " ..	20	" " ..
" 23	" ..	35194	E. G. Fuller, Toronto .....	½ " ..	20	Dalton Bros., Toronto. ...



## SESSIONAL PAPER No. 14

## GROUND COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.
	Microscopical Examination.	Sp. gr. of 10 per cent Extract.	Iodine Reac- tion for Starch.	
H. J. DAGER, INSPECTOR—Continued.				
Sample from stock tin. ....			None .	Genuine.
Sample from tin labeled Superior maple leaf, high quality and fine flavour coffee.				
Labeled Todhunter's ex- celsior coffee sample from tin labeled pure.				
Sample from tin labelled special high grade coffee.		1.0090		
Sample from tin labeled. ....			"	
Sample from tin labelled Crest Brand, Cairo Blend Coffee.				
Vendor says. He buys in bulk and puts in stock tin.				"
Vendor asked if I wanted 18 or 40c. coffee. He said the 40c. was the best and sold me ½ lb.	Roasted grain and chicory. ..		Starch. .	Adulterated.
.....			None. . .	Genuine.
.....				
Sample from one pound can labeled. Seal Brand Coffee, Chase & Sanborn.	Chicory. . . . .	1.0116		Contains about 10 p.c. chic- ory. Adulterated. <u>1</u>
Sold as the best ground coffee.				Genuine.
Sample from original tin labelled Pure Mocha and Java Coffee.				
.....				
Sample from 1 lb. tin can labeled Mocha and Java Coffee.	Chicory . . . . .	1.0128	" . . .	Contains from 10 to 15 p.c. chicory. Adulterated.
.....			" . . .	Genuine.
Sample from tin labelled McLaren's Invincible Coffee Java and Mocha Blend.			" . . .	
Sample Java Coffee. ....			" . . .	
Sample from tin labelled McLaren's Invincible Caf- fee Java and Mocha blend.			" . . .	
.....			" . . .	"
Sample from tin labelled Gillard's Diamond Spices.			" . . .	"
.....			" . . .	"
Sample from tin labelled Dalton's Mocha and Java Coffee.			" . . .	"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF TORONTO—						
1908.						
Oct. 27	Ground Coffee..	35195	H. Gordon, Toronto....	½ lb..	20	Todhhunter, Mitchell & Co., Toronto.
" 27	" ..	35196	Miss E. Craig, Toronto. ....	½ " ..	20	R. B. Hayhoe & Co., Toronto
" 27	" ..	35197	W. J. Swain, Toronto....	½ " ..	20	Pure Gold Mfg. Co., Ltd., Toronto.
" 27	" ..	35198	A. Balie, Toronto.....	½ " ..	13	F. J. Perrin, Toronto. ....
DISTRICT OF LONDON—						
Oct. 5	Ground Coffee..	30979	J. J. McEwan, Goderich.....	½ lb ..	20	Gorman Eckert, London ....
" 5	" ..	30988	John Shaw, Goderich.....	¾ " ..	30	" " ....
" 6	" ..	30990	Peopelstone & Gardner, Blyth.	½ " ..	20	Masurett & Co., London ....
" 7	" ..	30999	Edward Renker, Kincardine..	½ " ..	20	W. H. Gillard & Co., Hamilton
" 7	" ..	30502	P. McGaw, Kincardine .....	½ " ..	20	Not known.....
" 7	" ..	30509	J. H. McDonald, Listowell...	½ " ..	15	McPherson Glasco & Co., Hamilton.
" 12	" ..	30515	George McLennan, Clinton...	½ " ..	20	George McLaren, Hamilton..
" 15	" ..	30521	J. D. Smith & Co., St. Marys.	½ " ..	15	Not known.....
" 15	" ..	30524	J. M. Adam, St. Marys .....	½ " ..	20	Todhunter & Mitchell, Toronto.
" 15	" ..	30531	A. Beattie & Co., Stratford...	1 " ..	40	Chase & Sanborn.....
" 16	" ..	30537	R. McLaurin & Co., Mitchell..	1 " ..	15	Gorman Eckert & Co., London
" 21	" ..	30545	Parlmer Co., Hensal.....	½ " ..	20	Not known.....
" 21	" ..	30548	Frank J. Knight, Exter....	½ " ..	20	Gorman Eckert. ....
" 22	" ..	30550	G. Scott, Hensal .....	½ " ..	20	Canada Spice & Grocery, London.
Nov. 12	" ..	34682	N. Yeats, Galt ...	½ " ..	20	Gorman Eckert & Co., London
" 12	" ..	34683	Deans & Walker, Galt.....	½ " ..	20	Todhunter & Mitchell, Toronto.
" 12	" ..	34684	R. W. Wright, Galt .....	½ " ..	20	Not known.....
" 12	" ..	34685	John Ritchie, Galt.....	½ " ..	15	E. Blain, Toronto.....
" 12	" ..	34686	W. D. McKenzie, Galt..	½ " ..	13	McLarens, Hamilton .....
" 12	" ..	34687	Hollands & Macwley, Galt....	½ " ..	15	Gorman Eckert & Co., London
" 13	" ..	34688	Geo. Williams, Guelph.....	½ " ..	20	Chase & Sanborn, Montreal .
" 13	" ..	34689	Benson Bros., Guelph.....	½ " ..	15	Todhunter & Mitchell, Toronto.



## GROUND COFFEE.

H. J. DAGER, INSPECTOR—*Concluded.*

T. KIDD, INSPECTOR, AND JOHN TALBOT, ACTING INSPECTOR.



Date of Collection.	Nature of Sample.	No. of Sample.	Nature and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF LONDON—						
1908.						
Nov. 13	Ground Coffee..	34690	Jackson & Son, Guelph.....	½ lb...	20	Todhunter & Mitchell, Toronto.
Oct. 13	" ..	34691	J. T. Chittick, Guelph.....	½ " ..	20	Not known.....
" 13	" ..	34692	J. M. Dooly, Guelph .....	½ " ..	20	" ..
" 13	" ..	34693	Mrs. J. Walker, Guelph .....	½ " ..	20	" ..
" 13	" ..	34694	Johnston & Co., Guelph.....	½ " ..	20	R. D. Hayhoe & Co., Toronto
" 14	" ..	34699	T. Millman, Woodstock..	½ " ..	20	Todhunter & Mitchell, Toronto.
" 14	" ..	34702	E. J. Coles & Co., Woodstock.	½ " ..	20	" ..
DISTRICT OF WINDSOR—						
Oct. 7	Ground Coffee. .	34610	Jos. O'Brien, London. ....	½ lb ..	20	Pure Gold Co., Toronto..
" 8	" ..	34612	W. Loughrey, London..	½ " ..	20	Not known. ....
" 8	" ..	34615	T. McKay, London.....	½ " ..	20	Canadian Spice Co., London.
" 8	" ..	34619	Cohoon & Patterson, London..	½ " ..	20	Thos. Wood & Co., Montreal
" 8	" ..	34620	J. H. Johnston, London .....	½ " ..	20	Chase & Sanborn.....
" 8	" ..	34623	N. McLeod, London. ....	½ " ..	20	Todhunter Mitchell & Co., Toronto.
" 8	" ..	34626	W. S. Murdy, London.....	½ " ..	20	A. M. Smith & Co., London.
" 8	" ..	34629	F. W. Parker, London..	½ " ..	20	McLaren's, Hamilton..
" 8	" ..	34630	F. W. Paul & Son.....	½ " ..	20	Gorman Eckert & Co., London
" 9	" ..	34632	Gussburg Bros., London .....	½ " ..	17	Scandrett Bros., London....
" 14	" ..	34634	Northway Co., Ridgetown....	1 " ..	25	Todhunter Co., Toronto.....
" 14	" ..	34636	Clark & Sons, Ridgetown.....	1 " ..	40	Imperial Spice Co., Hamilton
" 15	" ..	34644	L. H. Evans, Leamington....	½ " ..	40	McPherson Glassco & Co., Hamilton.
" 15	" ..	34645	B. C. Watson, Leamington....	½ " ..	25	Thos. Wood & Co., Montreal
" 15	" ..	34646	Geo. M. Sawyer, Leamington.	1 " ..	40	Baker Importing Co., New York.
" 15	" ..	34648	E. Quick. Kingsville. ....	½ lb ..	13	Did not know.....
" 15	" ..	34649	P. J. Salmons, Kingsville....	¾ " ..	30	Chase & Sanborn, Montreal.
" 16	" ..	34653	Fielding & Campeau, Windsor	½ " ..	15	Not known. ....
Nov. 10	" ..	34660	A. A. Drinkwater, St. Thomas	½ " ..	15	McPherson, Glassco & Co., Hamilton
" 10	" ..	34661	Jas. Munn, St. Thomas .....	½ " ..	20	Chase & Sanborn, Montreal



## GROUND COFFEE.

T. KIDD, INSPECTOR, AND JOHN TALBOT, ACTING INSPECTOR—*Concluded.*

JOHN TALBOT, INSPECTOR.

	Note	Genuine.
Taken from tin in store.		
Taken from original can.		
Taken from tin in store.		
Taken from package in store.		
Taken from original package in store.		
Taken from tin in store.		
Taken from package in Vendors store.		
Red Feather Brand. Taken from original package.	1.0089	
Taken from caddy in Vendors store.		
Labelled Woods Gilt Edge Coffee. Taken from original package in Vendors store.	1.0087	
Taken from package in Vendors store.		
Taken from Caddy in Vendor's Store, not labelled.		None... Genuine.
Seal Brand, Taken from original package in Vendor's Store.		"
Taken from Caddy in Vendor's Store.		"
Roasted grain		Starch... Adulterated.
"	1.0096	None... Genuine.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF WINDSOR—

1908.						
Nov. 10	Ground Coffee..	34668	W. Southern & Son, St. Thomas	½ lb ..	20	Canada Spice & Grocery Co., London.
" 10	" ..	34669	J. G. Hesther, Aylmer.....	½ " ..	20	Todhunter & Mitchell, Toronto.
" 11	" ..	34673	E. A. Ellis, Tilsonburg. ....	½ " ..	20	" " ..
" 11	" ..	34674	W. T. Gibson, Tilsonburg....	½ " ..	13	Not known.....
" 11	" ..	34676	J. A. Trestain, Tilsonburg....	½ " ..	20	Thos. Wood & Co., Montreal.
" 11	" ..	34679	W. B. Hogarth, Tilsonburg...	½ " ..	20	Todhunter & Mitchell, Toronto.
" 18	" ..	34704	J. A. Kelly, Lambeth .....	½ " ..	20	Canada Spice & Grocery Co., London.
" 18	" ..	34705	G. T. Carley, Lambeth. ....	½ " ..	20	A. M. Smith & Co., London.
" 18	" ..	34706	Earle & Son, Lambeth.....	½ " ..	20	E. Adams & Co., London...
" 18	" ..	34707	A. R. Calcott, London South..	½ " ..	20	A. M. Smith & Co., London.

DISTRICT OF MANITOBA—

Nov. 5	Ground Coffee..	35709	J. A. Clare, Neepawa.....	½ lb ..	25	Codville Co., Ltd., Winnipeg.
" 6	" ..	35710	Galloway Bros., Gladstone ...	½ " ..	20	The Blue Ribbon Co., Winnipeg.
" 10	" ..	35711	The Beehive Store, H. C. Stake Mgr. Boissevain.	½ " ..	25	Vendor .....
" 10	" ..	35712	The J. D. Bayne Co., Bois- sivian.	½ " ..	25	The Codville Co., Ltd., Winnipeg.
" 11	" ..	35713	R. Cross & Co., Killarney ....	½ " ..	20	Wood & Co., Boston and Montreal.
" 11	" ..	35714	C. Richards, Killarney.....	½ " ..	20	Thos. Wood & Co., Boston and Montreal.
" 11	" ..	35715	S. R. Colquhoun, Deloraine...	½ " ..	20	" " ..
" 11	" ..	35716	Montgomery Bros., Deloraine.	½ " ..	20	" " ..
" 12	" ..	35717	J. H. Heiman, Morden.....	½ " ..	15	Foley Lock Larson, Winnipeg.
" 12	" ..	35718	M. A. Freeborn, Morden.....	½ " ..	20	Gold Standark M'f'g. Co., Winnipeg.
" 16	" ..	35719	W. C. McShane, Souris ....	½ " ..	20	Chase & Sanborn, Montreal..
" 16	" ..	35720	Stewart & Co., Souris.....	½ " ..	20	The Gold Standard M'f'g. Co., Winnipeg.
" 18	" ..	35721	The Central Grocery, R. Mar- tin, Mgr., Brandon.	½ " ..	20	Vendors .....
" 18	" ..	35722	The Symington Co., Brandon.	½ " ..	20	" .....
" 18	" ..	35723	D. Rice, Brandon.....	½ " ..	20	Vendor .....
" 19	" ..	35724	H. W. Reeves, Treherne.....	½ " ..	20	The Dyson M'f'g. Co., Winnipeg.



SESSIONAL PAPER No. 14  
GROUND COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.		Remarks and Opinion of the Chief Analyst.
	Microscopical Examination.	Sp. gr. of 10 per cent Extract.  Iodine Reac- tion for Starch.	
JOHN TALBOT, INSPECTOR— <i>Concluded.</i>			
Taken from package in Ven- dor's Store.		None	Genuine.
After pkgs. were sealed the Vendor stated that there might be a small amount of Chicory in sample, was not sure.		"	"
Taken from Caddy in Ven- dor's Store.	1.0088	"	"
"	"	"	"
Caddy labelled, Thos. Wood Boston Coffee Purity gua- ranteed. Vendor guaran- teed it pure.	"	"	"
Taken from Caddy in Ven- dor's Store.	1.0086	"	"
Taken from original package in Vendor's Store.	1.0098	"	"
Taken from Caddy in Ven- dor's Store.	"	"	"
"	1.0084	"	"
Taken from package in Ven- dor's Store.	"	"	"
A. C. LARIVIERE, INSPECTOR.			
Ground by Vendor		None	Genuine.
After purchase the Clerk said it was a mixture.	1.0101	"	Sold as compound.
Ground by Vendors.....	"	"	Genuine.
"	"	"	"
Wood Boston Coffee ground by Vendors.	"	"	"
Ground by Vendor	1.0099	"	"
"	1.0092	"	"
"	"	"	"
The Vendor labelled sample, "24 Roasted Rio."	"	"	"
Ground by Vendor....	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Marked Red Cross....	"	"	"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF MANITOBA—						
1908.						
Nov. 19	Ground Coffee..	35725	W. R. Ross, Holland.....	½ lb...	20	Chase & Sanborn, Montreal..
" 20	" ..	35726	T. T. Pearson, Carman. ....	½ " ..	20	" ..
" 20	" ..	35727	The A. E. Hill Co., Carman..	½ " ..	25	Vendors .....
" ..	" ..	35728	G. D. Meikle, Carman.....	½ " ..	20	The Gold Standard M'f'g. Co., Winnipeg.
Dec. 8	" ..	35729	E. S. Harvey, Winnipeg.....	½ " ..	20	Vendor ..
" 8	" ..	35730	A. MacDonald & Co., Winni- peg.	½ " ..	20	The Blue Ribbon Co., Ltd., Winnipeg.
" 8	" ..	35731	E. Feir, Winnipeg.....	½ " ..	20	The Gold Standard M'f'g. Co., Winnipeg.
" 8	" ..	35732	H. R. Bandry, Winnipeg....	½ " ..	20	Vendor .....
" 8	" ..	35733	Fergies Grocery, Winnipeg...	½ " ..	20	" ..
" 9	" ..	35734	R. Beath & Son, Elmwood P.O. Winnipeg.	½ " ..	20	Vendors.....
" 10	" ..	35735	A. Thompson, Oak Lake. ...	½ " ..	20	Chase & Sanborn, Montreal..
" 10	" ..	35736	Cameron's General Store, Oak Lake.	½ " ..	20	The Blue Ribbon Co., Ltd., Winnipeg.
" 11	" ..	35737	G. Boulton & Co., Winnipeg..	½ " ..	20	Not given .....
" 11	" ..	35738	D. Christie, Winnipeg.....	½ " ..	20	" ..
DISTRICT OF CALGARY—						
Nov. 12	Ground Coffee..	35401	Kemick & Gold, Calgary.....	½ lb ..	15	Georgeson & Co., Ltd., Cal- gary.
" 12	" ..	35402	C. A. Wallace, Calgary, ....	½ " ..	25	Chase & Sanborn, Montreal..
" 12	" ..	35403	A. Brand, Calgary.....	½ " ..	15	G. F. & J. Galt, Ltd., Calgary
" 12	" ..	35404	Gold West Grocery, Calgary..	½ " ..	15	L. T. Mewburn & Co., Ltd., Calgary.
" 12	" ..	35405	P. W. Garnot, Calgary.....	½ " ..	20	W. A. Jameson Coffee Co., Victoria, B.C.
" 12	" ..	35406	Hallett & Longden, Calgary ..	½ " ..	15	Unknown .....
" 12	" ..	35407	Kwong Man Yuen & Co., Cal- gary.	½ " ..	15	Georgeson & Co., Ltd., Cal- gary.
" 12	" ..	35408	J. T. Macdonald, Calgary ....	½ " ..	20	G. F. & J. Galt, Ltd., Calgary
" 12	" ..	35409	Peoples Co-operative Society, Ltd., Calgary.	½ " ..	15	Chase & Sanborn, Montreal..
" 12	" ..	35410	S. G. Freeze, Calgary .....	½ " ..	15	Georgeson & Co., Ltd., Cal- gary.
" 13	" ..	35411	West End Grocery, Calgary ..	½ " ..	25	L. T. Mewburn & Co., Cal- gary.
" 13	" ..	35412	Great West Trading Co., Cal- gary.	½ " ..	20	" ..
" 13	" ..	35413	H. R. Kitto, Calgary.....	½ " ..	20	G. F. & J. Galt, Ltd., Calgary
" 13	" ..	35414	Alberta Supply Co., Calgary..	½ " ..	20	Campbell, Wilson & Horne, Calgary.



## GROUND COFFEE.

RESULTS OF ANALYSIS.			
Inspector's Report.	Microscopical Examination.	Spc. gr. of 10	Remarks and Opinion of the Chief Analyst.
		per cent Extract.	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF CALGARY—						
1908.						
Nov. 13	Ground Coffee..	35415	W. W. Roberts, Calgary.....	½ lb...	25	Todhunter, Mitchell & Co., Toronto.
" 13	" ..	35416	Western Grocery, Calgary....	½ " ..	20	Georgeson & Co., Ltd., Calgary.
" 13	" ..	35417	H. Cross, Calgary.....	½ " ..	15	L. T. Mewburn & Co., Ltd., Calgary.
" 13	" ..	35418	Dominion Grocery.....	½ " ..	25	" " ..
" 13	" ..	35419	L. Draper, Calgary ...	½ " ..	25	Donnelly, Watson & Brown, Calgary.
" 13	" ..	35420	M. T. Ramage, Calgary .....	½ " ..	20	Campbell, Watson & Horne, Calgary.
" 14	" ..	35421	G. Armitage, Calgary .....	½ " ..	20	G. F. & J. Galt, Ltd., Calgary
" 14	" ..	35422	R. J. Frizzle, Calgary.....	½ " ..	20	Pure Gold Mfg. Co., Ltd., Toronto.
" 14	" ..	35423	J. E. Kavanagh, Calgary. ...	½ " ..	15	Georgeson & Co., Ltd., Calgary.
" 14	" ..	35424	R. V. Shaw & Co., Calgary...	½ " ..	25	Pure Gold Mfg. Co., Ltd., Toronto.
" 14	" ..	35425	Speer Bros., Calgary. ....	½ " ..	25	Campbell, Wilson & Horn, Calgary.
" 14	" ..	35426	A. Newham, Calgary.....	½ " ..	20	" " ..
" 14	" ..	35427	McClellan & Hawks, Calgary.	½ " ..	25	Georgeson & Co., Ltd., Calgary.
" 14	" ..	35428	Premium Tea Co., Calgary....	½ " ..	25	L. T. Mewburn & Co., Ltd., Calgary.
" 16	" ..	35429	Copar & Emerson, Calgary....	½ " ..	20	W. H. Malkin Co., Ltd., Vancouver, B.C.
" 16	" ..	35430	C. J. Winn, Calgary.....	½ " ..	25	Ridgeways, Ltd., Vancouver, B.C.

DISTRICT OF VANCOUVER—

Oct. 9	Ground Coffee..	34371	Pantry Grocery, Vancouver...	½ lb ..	25	Wm. Braid & Co., Vancouver
" 9	" ..	34372	Wells & Co., Vancouver.....	½ " ..	20	Empress Mfg. Co., Vancouver
" 9	" ..	34373	J. R. Gosling, Vancouver.....	½ " ..	25	W. Braid & Co., Vancouver..
" 12	" ..	34374	E. Pooke, Vancouver.....	½ " ..	20	W. H. Malkin & Co., Vancouver.
" 12	" ..	34375	Mrs. McWhinnie, Vancouver. ½	" ..	20	Kelly, Douglas & Co., Vancouver.
" 12	" ..	34376	J. H. Snelgrove, Vancouver . ½	" ..	20	W. Braid & Co., Vancouver..
" 12	" ..	34377	McCulloch Bros., Vancouver.. ½	" ..	15	Not known.....
" 13	" ..	34378	Direct Supply Co., Vancouver ½	" ..	20	W. Braid & Co., Vancouver..
" 13	" ..	34379	H. C. McQuarrie, Vancouver. ½	" ..	15	Empress Mfg. Co., Vancouver
" 13	" ..	34380	J. L. Clark, Vancouver.....	½ " ..	15	Braid & Co., Vancouver ....
" 13	" ..	34381	J. McArthur, Vancouver.....	½ " ..	20	Empress Mfg. Co., Vancouver
" 13	" ..	34382	David Lam & Co., Vancouver. ½	" ..	25	Young Bros., Seattle.....



## SESSIONAL PAPER No. 14

## GROUND COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.			Remarks, and Opinion of the Chief Analyst.
	Microscopical Examination.	% gr. of 10 per cent Extract.	Iodine Reac- tion for Starch.	
W. R. FLETCHER. INSPECTOR— <i>Concluded.</i>				
.....	.....	.....	None...	Genuine.
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"
.....	.....	.....	" ..	"

## J. F. POWER, INSPECTOR.

Ground in store. ....	.....	None...	Genuine.
.....	1.0097	" ..	"
Ground in store. ....	.....	" ..	"
Ground in store. Brown Berry Brand. ....	.....	" ..	"
.....	.....	" ..	"
..... Chicory. ....	1.0115	" ..	Contains about 10 p.c. chic- ory. Adulterated.
Ground in store. ....	.....	" ..	Genuine.
" .....	.....	" ..	"
" .....	.....	" ..	"
" .....	.....	" ..	"
" .....	.....	" ..	"
" .....	.....	" ..	"



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF VANCOUVER—

1908.						
Oct. 13	Ground Ceffee..	34383	Malcom McLean, Vancouver..	½ lb..	15	Not known... ..
" 13	"	34384	Orient Tea Co., Vancouver ...	½ " ..	15	Vendors.....
" 13	"	34385	H. J. Hampton, Vancouver...	½ " ..	15	Chase & Sanborn.....
" 13	"	34386	A. & C. Grocery.....	½ lb..	20	Win. Braid & Co., Vancouver
" 13	"	34387	Heely & Jackson.....	½ " ..	20	" " ..
" 13	"	34388	Howell & Weir .....	½ " ..	15	Poineer Coffee & Spice Co., Victoria.
" 13	"	34389	R. Burder.....	½ " ..	15	Empress Mfg. Co.....
" 13	"	34390	Empire Grocery.....	½ " ..	20	Not known....
" 13	"	34391	H. W. Chapman, Vancouver..	½ " ..	20	Orient Tea Co., Vancouver..
" 13	"	34392	Mrs. C. H. Scott, Vancouver ..	½ " ..	20	W. Braid & Co., Vancouver.
" 13	"	34393	A. R. Griffin, Vancouver. ....	½ " ..	25	" " ..
" 13	"	34394	W. J. Halpin, Vancouver. ..	½ " ..	20	Empress Mfg. Co., Vancouver
" 15	"	34395	Weeks & Co., Eburne....	½ " ..	20	Hudson Bay Co., Vancouver.
" 15	"	34396	J. D. Richards, Eburne.....	½ " ..	20	W. H. Malkin Co., Van- couver.
" 16	"	34397	J. J. Effards, Sapperton.....	½ " ..	15	" " ..
" 16	"	34398	Adams & Dean, New West- minister.	½ " ..	20	Braid & Co., Vancouver.....
" 16	"	34399	Geo. Adams, New Westminis- ter.	½ " ..	20	" " ..
" 19	"	34400	Star of India T. Co., Van- couver.	½ " ..	15	W. H. Malkin & Co., Van- couver.

DISTRICT OF VICTORIA—

Nov. 18	Ground Coffee..	34977	The Saunders Grocery Co., Ltd., Victoria.	½ lb..	20	Braid & Co., Vancouver.....
" 19	"	34978	Harrison & McDonald, Victoria	½ " ..	20	A. Shilling & Co., San Francisco, Cal.
" 19	"	34979	The West End Grocery Co., Ltd., Victoria.	½ " ..	20	Braid & Co., Vancouver.....
" 19	"	34980	Fred Carne, Victoria.....	½ " ..	20	Empress Mfg. Co., Van- couver
" 20	"	34981	Jalland Bros., Victoria.....	½ " ..	20	" " ..
" 20	"	34982	Acton Bros., Victoria.....	½ " ..	20	Braid & Co., Vancouver.....
" 20	"	34983	The Victoria Rochdale Co., Victoria.	½ " ..	20	Empress Mfg. Co., Vancouver
" 20	"	34984	Wm. B. Hall, Victoria.....	½ " ..	20	Braid & Co., Vancouver.....
" 23	"	34985	Copas & Young, Victoria....	½ " ..	20	W. H. Malkin, Vancouver ..
" 23	"	34986	W. Speed, Victoria.....	½ " ..	20	Victoria Coffee & Spice Mills, Victoria, B.C.
" 23	"	34987	Dixi H. Ross & Co., Victoria..	½ " ..	25	J. A. Folzer & Co., San Francisco, Cal.



## GROUND COFFEE

### Inspector's Report.

### Microscopical Examination.

Sp. H. of L.  
H. H. H.  
H. H. H.

**Iodine Reaction for Starch.**

Remarks  
and Opinion of the  
Chief Analyst.

**J. F. POWER, INSPECTOR—***Concluded.*

Ground in store . . . . .	None	Genuine.
---------------------------	------	----------

Ground in store. . . . .

Ground in store..

Ground in store..

10492

Ground in store . . .

1111

Quality guaranteed...

10111

Ground in store.....

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D. O'SULLIVAN, INSPECTOR.

100% No. 1 Genuine.

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44

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49

90

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1.0097



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF VICTORIA—						
1908.						
Nov. 24	Ground Coffee..	34988	J. Renouf, Victoria.....	½ lb...	20	Victoria Coffee & Spice Mills Victoria, B.C.
" 25	" ..	34989	L. Dickson, Victoria.....	½ " ..	20	Poineer Coffee & Spice Mills Victoria, B.C.
" 25	" ..	34990	F. E. Plummer, Victoria. ....	½ " ..	20	Empress Mfg. Co., Van couver.
" ..	" ..	34991	C. B. Jamieson, Victoria. ....	½ " ..	25	W. A. Jameson Coffee Co., Victoria, B.C.
" ..	" ..	34992	Hallam & Wyndham, Victoria	½ " ..	20	J. W. Berry, Vancouver, B.C.
" ..	" ..	34993	Duncan & Hamilton, Victoria.	½ " ..	20	W. W. Duncan, Victoria, B.C.
" ..	" ..	34994	C. R. Bunting, Victoria .....	½ " ..	20	Poineer Coffee & Spice Mills, Victoria, B.C.
" ..	" ..	34995	W. A. Jameson Coffee Co ...	½ " ..	20	Mitchell Bros., New York...
" 26	" ..	34996	Bailey & Blomquist, Victoria .	½ " ..	20	Poineer Coffee & Spice Mills, Victoria, B.C.
" ..	" ..	34997	Belquire & Heagerty, Victori a.	¼ " ..	25	Alfred Haggard, Victoria, B.C
" ..	" ..	34998	John Ward, Victoria.....	½ " ..	20	Poineer Coffee & Spice Mills, Victoria.
" ..	" ..	34999	Peter S. Smith, Victoria.....	½ " ..	25	" " ..
" 27	" ..	35000	E. B. Jones, Victoria .....	½ " ..	25	Empress Mfg. Co., Vancouver
" ..	" ..	39201	J. F. MacDonald, Victoria...	½ " ..	25	W. A. Jameson Coffee Co., Victoria.
" ..	" ..	39202	S. C. Thomson, Victorio.....	½ " ..	20	Simon Leiser & Co., Victoria
" ..	" ..	39203	Geo. Norman, Victoria. ....	½ " ..	20	Hallam & Wyndham, Victoria
" ..	" ..	39204	Baker & John, Victoria.. ....	½ " ..	20	G. B. Jameson, Victoria.....
" ..	" ..	39205	John Bros., Victoria.....	½ " ..	20	Poineer Coffee & Spice Mills, Victoria.
" ..	" ..	39206	Deaville Sons & Co., Victoria.	½ " ..	20	" " ..



## SESSIONAL PAPER No. 14

## GROUND COFFEE.

Inspector's Report.	RESULTS OF ANALYSIS.			Remarks, and Opinion of the Chief Analyst.
	Microscopical Examination.	Sp. gr. of 10 per cent Extract.	Iodine Reac- tion for Starch.	
D. O'SULLIVAN, INSPECTOR - <i>Continued</i>				
.....	.....	.....	None	Genuine.
.....	.....	1.0092	"	"
.....	.....	.....	"	"
.....	.....	.....	"	"
.....	.....	.....	"	"
.....	.....	.....	"	"
.....	.....	.....	"	"
.....	.....	.....	"	"
.....	.....	1.0103	"	"
.....	.....	.....	"	"
Vendor stated that sample contained $\frac{1}{2}$ oz. of chicory to the lb.	.....	1.0082	"	Sold as compound.
Vendor said sample contain- ed a small amount of chicory.	.....	1.0100	"	"
.....	.....	.....	"	Genuine.
.....	.....	.....	"	"
.....	.....	.....	"	"
.....	.....	.....	"	"
Vendor said sample contain- ed a small amount of chicory	Chicory .....	1.0116	"	Contains about 10 per cent chicory. Sold as compound.
.....	.....	.....	"	Genuine.
.....	.....	.....	"	"







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## APPENDIX W.

## BULLETIN No. 173—GROUND CLOVES.

OTTAWA, February 6, 1908.

WM. HIMSWORTH, Esq.,  
Acting Deputy Minister of Inland Revenue.

SIR, I beg to hand you a report upon the examination of 145 samples of Ground Cloves, collected throughout Canada during July and August of last year. The following synopsis shows the general results of the examination.

Inspection District.	Probably Genuine.	Found Doubtful.	Lost.	Total.
New Scotia	4	6	0	10
P. E. Island	6	4	0	10
New Brunswick	5	5	0	10
Quebec	6	4	0	10
St. Hyacinthe	3	7	0	10
Montreal	4	6	0	10
Ottawa	3	7	0	10
Kingston	3	5	2	10
Toronto	2	8	0	10
London	6	4	0	10
Windsor	4	1	0	5
Manitoba	7	3	0	10
Calgary	7	2	1	10
Vancouver	6	4	0	10
Victoria	8	2	0	10
	74	68	3	145

Total collected	145
“ analysed	142
“ genuine.	74
Percentage found genuine	52 %



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It will be noted that while I am able to declare 52 per cent of the collection as probably genuine, I do not feel warranted in declaring adulteration as regards the remainder. This is due to uncertainty as regards the minimum limits of value for genuine cloves.

A study of cloves was made in this laboratory in 1900, and the results are published in Bulletin No. 73. The methods of examination there described have been mainly followed in the work now placed in your hands. So far as determinations of ash, fixed oil, tannin and total volatile matter are concerned, the well known processes have been employed. The distinction between that portion of the volatile matter which represents aqueous moisture, and that portion which represents volatile oil has been effected (as described in Bulletin 73) by drying *in vacuo* over sulphuric acid, to the point of incipient discoloration of the acid, and taking this loss to represent the moisture of the sample.

The mean values found for volatile oil, in 28 samples of genuine cloves, by this method, are as follows :—

(Bulletin 73, p. 14).

	Maximum.	Minimum.	Mean.
Penang Cloves. ....	17·2	14·8	16·2
Amboyna " ....	19·2	18·0	18·5
Zanzibar " ....	18·3	16·4	16·6
Mixture of these three kinds in equal proportion. ....	18·2	16·4	16·9
Values found by C. Richardson (Bull. 13, Bureau of Chemistry, Washington, 1887).....	18·89	10·23	15·63

Cloves are defined by the Food Standards Committee of the United States (Circ. No. 19 : Dept. of Agriculture, Washington, June 1906) as follows :—

‘Cloves are the dried flower buds of *Caryophyllus aromaticus*, L. ; which contain not more than five (5) per cent of clove stems ; not less than ten (10 per cent of volatile ether extract ; not less than twelve 12 per cent of quercitannic acid ; not more than eight (8) per cent of total ash ; not more than five-tenths (0·5) per cent of ash insoluble in hydrochloric acid, and not more than ten (10) per cent of crude fiber.’

The ‘volatile ether extract’ mentioned in this definition is not strictly identical with volatile oil, for the reason that it is determined on the cloves after drying by a method which involves a considerable, and an unknown loss of volatile oil. The limit of 10 per cent for volatile ether extract, named in the definition, is certainly too low to apply to volatile oil. I have elsewhere (Bull. 73) suggested a minimum limit of 14 per cent for ‘volatile oil’ in cloves ; and I am convinced that an inspection of this report will justify my recommendation. It is true that 17 samples classified as ‘probably genuine’ yield less than 14 per cent of volatile oil. The samples in question are as follows :—

No.	Volatile Oil.
31324 .....	12·35
26489 .....	13·65
26487 .....	12·55
26472 .....	11·55
29757 .....	12·52
32635 .....	12·95
32634 .....	12·40
32626 .....	13·10
183 .....	13·00
35284 .....	12·87
22668 .....	12·80
35165 .....	13·17



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No.	Volatile Oil.
33160 . . . . .	12·02
33158 . . . . .	12·10
34320 . . . . .	13·17
35328 . . . . .	11·17
34957 . . . . .	11·37

The remaining 57 samples, similarly classified, yield percentages of volatile oil much higher than 14 and it is open to question whether samples showing less than this amount do not consist in whole or in part, of 'exhausted cloves,' that is, cloves from which the volatile oil has been removed in whole or in part.

Starch is present in 27 samples. This is not a normal component of cloves. In a few cases the amount is so small that it may be present accidentally, but generally this assumption is not tenable. Pimento starch is usually the variety found; but sometimes wheat and maize have been identified. It must be remembered that this spice, while very frequently adulterated by addition of foreign matters, is capable of another kind of adulteration, namely, the removal of the whole or part of the volatile oil to which the spice owes its value.

The definition of Standard Ground Cloves must be written in such a way as to exclude both forms of adulteration. Such a definition is being considered.

I beg to recommend the publication of this report as Bulletin 173.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF NOVA SCOTIA—

1908.							
Aug.	4 Ground Cloves	33501	DeWolf & Lamont, Kentville, N.S....	6 oz..	15	F. F. Dalley Co., Hamilton.	Sample taken from Bulk.
"	5 "	33502	Shand Bros., Windsor.	3 pkgs	15	John P. Mott & Co., Halifax, N.S.	Warranted Superior Quality.
"	"	33503	Doyle & Co., Halifax.	3 "	15	W. H. Schwartz & Sons, Halifax, N.S.	Sold as Pure Peerless Brand.
"	"	33504	Nat. Drug Co., Halifax.	3 "	15	Nat. Drug Co. of Canada.	Labeled Sovereign Brand.
"	"	33505	John P. Mott & Co., Halifax.	3 "	Nie.	Jno. P. Mott & Co., Halifax.	Warranted Superior Quality.
"	"	33506	" " "	6 oz..	"	" " "	" " "
"	7 "	33507	W. H. Schwartz & Sons, Halifax.	3 pkgs	13	W. H. Schwartz & Sons, Halifax.	Labeled Peerless brand Pure.
"	7 "	33508	" " "	6 oz..	11	" " "	" " "
"	7 "	33509	Creig & Hodgson, Halifax.	6 "	10	Can Drug Co., St John, N.B.	" " "
"	7 "	33510	W. C. Anderson, Halifax.	6 "	15	W. H. Schwartz & Sons, Halifax.	" " "

DISTRICT OF PRINCE EDWARD ISLAND—

July	15 Ground Cloves	31316	W. D. Currie, Souris.	6 oz..	18	Dearborn & Co., St John, N.B.	" " "
"	15 "	31317	Stern's Bros., Souris.	6 "	12	Nat. Drug Co., Halifax, N.S.	" " "
"	20 "	31318	Geo. Rackham, Charlottetown.	6 "	15	Carvell Bros., Charlottetown.	" " "
"	22 "	31319	J. D. Hume, Murray River.	6 "	18	Pure Gold.....	" " "
"	22 "	31320	A. M. Ross, Murray River.	6 "	24	Unknown .....	" " "
"	31 "	31321	M. & A. McLeod, Charlottetown.	6 "	15	J. A. Farquharson, Charlottetown.	" " "
Aug.	3 "	31322	Bowness & Myers, Bedeque.	6 "	15	Dearborn & Co., St. John.	" " "
"	3 "	31323	Auld & Co., Free-town.	6 "	15	Chaput fils & Co., Montreal.	" " "
"	4 "	31324	W. J. Lidstone, Summerside,	6 "	12	Robert Greig & Co., Toronto.	" " "
"	5 "	31325	Stewart & Son, Charlottetown.	6 "	15	W. H. Schwartz & Sons, Halifax, N.S	" " "

DISTRICT OF NEW BRUNSWICK—

July	16 Ground Cloves	29748	G. E. Barbours Ltd., St. John, N.B.	3 c't's.	23	Vendors.....	"Acorn" Brand Strictly Pure Cloves guaranteed.
"	16 "	29749	" " "	6 oz..	13	" " "	"Acorn" Brand..
"	1 "	29750	Dearborn & Co., St. John, N.B.	6 "	18	" " "	" " "
Aug.	5 "	29751	Geo. Robertson, Moncton, N.B.	6 "	15	Jno. P. Mott & Co., Halifax, N.S.	" " "



## GROUND CLOVES.

RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
Total Ash.	Acid Insoluble Ash.	Volatile Matter.			Fixed Oil, Petroleum Ether Extraction.	Total Oil, Fixed and Volatile	Tannin.	Microscopical Examination.		
		Water.	Oil.	Total.						
R. J. WAUGH, INSPECTOR.										
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.			
6.75	0.50	3.80	12.80	16.60	2.27	15.07	..	Starch Clove Stems and Foreign matter.		
6.80	0.10	4.05	9.27	13.32	1.92	11.19	16.50	Stone cells. Clove Stems and Stone	Vol. oil is low.	Foreign
5.05	0.20	3.62	17.95	21.57	2.55	20.50	.	cells. Clove tissues	matter.	Genuine.
5.07	0.10	3.85	15.80	19.65	1.97	17.77		Clove Stems and Stone	Foreign matter.	
6.02	0.12	4.50	11.00	15.50	2.10	13.10	.	cells.		
6.35	0.20	3.42	13.72	17.14	2.50	16.22		" "		
5.32	0.30	2.60	18.40	21.00	2.57	20.97	..	Clove tissues		
4.95	0.15	2.65	19.05	21.70	2.60	21.65		Clove tissues		
6.50	0.25	3.05	14.57	17.62	2.45	17.02	.	Clove Stems and Stone	Foreign matter.	
5.65	0.25	2.70	16.80	19.50	2.00	18.80		cells. Clove tissues		Genuine.
T. MOORE, INSPECTOR.										
5.90	0.15	3.12	17.85	20.97	2.17	20.02		Clove tissues		Genuine.
6.45	0.25	3.05	16.35	19.40	2.20	18.55		Clove tissues		
5.55	0.20	3.10	18.20	21.30	2.15	20.35		Clove tissues		
4.75	0.10	3.32	9.92	13.24	1.55	11.47	7.92	Wheat Starch, Clove	Tannin low;	Foreign
6.92	0.50	4.02	10.85	14.87	1.47	12.32		Stems. Clove Stems and Stone	matter present.	
8.45	0.60	3.67	10.62	14.29	1.32	11.94	....	Cells.	Foreign matter.	
7.60	0.50	4.32	11.32	15.64	3.72	15.04	....	" "	Ash : Acid insoluble Ash,	
5.80	0.20	2.30	18.40	20.70	1.15	19.55	...	" "	are high. Foreign mat-	
7.50	0.35	3.82	12.35	16.17	1.10	13.45		Clove tissues	ter present.	
5.70	0.30	3.67	17.57	21.24	1.40	18.97	.	Clove tissues	Foreign matter present.	
J. C. FERGUSON, INSPECTOR.										
6.05	0.25	2.65	18.35	21.00	3.15	21.50	...	Clove tissues		Genuine.
6.10	0.10	2.90	16.50	19.70	2.87	19.67	...	"		
4.42	0.20	6.45	24.45	30.90	2.32	30.77	13.20	"		
8.00	0.45	2.75	9.65	12.40	1.40	11.05	13.68	Clove Stems & Stone Cells	Vol. Oil is low.	Foreign



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF NEW BRUNSWICK—

1908.							
Aug.	6 Ground Gloves	29752	Miller Bros., New-castle, N.B.	6 c't's.	10	Maritime Spice & Coffee Mills, St. John, N.B.	"Acorn" Brand..
"	7 "	29753	V. A. Danville, Chat-ham, N.B.	3 " "	30	H. W. Cole, Ltd., St. John, N. B....	"Thistle" Brand. Bowman & Cole's Spices are gua-ranteed to be pure.
"	13 "	29754	Inches & Grimmer, St. Stephen, N.B.	6 " "	15	Bowman and Cole, St. John, N. B....	.....
"	15 "	29755	H. C. Jewett, Fred-erickton, N.B.	6 " "	15	" " "	.....
"	18 "	29756	H. T. Noble, Wood-stock, N.B.	6 " "	15	G. C. Bourbour & Co. Ltd., St. John, N.B	.....
"	18 "	29757	R. E. Holyoke, Wook-stock, N.B,	6 " "	15	Dearborn & Co., St. John, N.B.	.....

DISTRICT OF QUEBEC—

July	16 Ground Cloves	26472	Mederic Tramblay, Baie St. Paul.	6 oz..	5	Whitead & Turner, Quebec.	.....
"	16 "	26477	Juste Jean, Baie St. Paul.	½ lb..	20	Turcotte & Frère, Quebec.	.....
"	17 "	26482	Benjamin Simard, Baie St. Paul.	6 oz..	8	Nazaire Turcotte & Cie, Quebec.	.....
"	17 "	26486	Alfred Otis, Baie St. Paul.	3 pkgs	27	N. Turcotte & Cie, Quebec.	.....
"	17 "	26487	Roger Bailly, Baie St. Paul.	6 oz..	12	" " "	.....
"	17 "	26488	P. N. Gariephy, Baie St. Paul.	6 " "	15	A. Carrier & fils, Levis.	.....
"	24 "	26489	Joseph Falardeau, St. Joseph, P.Q.	6 " "	20	Quebec Spice Mills..	.....
"	24 "	26493	J. C. Delage, St. Joseph, P.Q.	6 " "	20	Unknown ...	.....
"	24 "	26495	Moise Pouliot, St. Joseph, P.Q.	6 " "	15	Lavoie & Dion, Que-bec.	.....
"	24 "	26497	Alphonse Laroche, 120 Dorchester, Quebec.	6 " "	15	Joseph & Sons, Que-bec.	.....

DISTRICT OF ST. HYACINTHE—

July	29 Ground Cloves	175	Alfred Corneau, La Carriere, Bagot.	½ lb ..	20	Raymond freres, St. Hyacinthe.	Labelled pure ground cloves.
"	29 "	176	L. J. Dubois, St. Dominique, Bagot.	6 oz ..	15	L. Chaput & fils, Montreal.	.....
"	29 "	177	Mde. A. Roy, St. Pie, Bagot.	6 " "	15	Lacaille & Gendreau & Cie, Montreal.	.....
"	29 "	178	J. A. Messier, St. Paul, Abbotsford.	6 " "	15	L. Chaput fils & Co., Montreal.	Warranted pure cloves.
Aug.	4 "	179	F. X. Gagnon, Magog	½ lb ..	17	Hudon, Hebert & Cie, Montreal.	Labelled pure ground cloves.



## SESSIONAL PAPER No. 14

## GROUND CLOVES.

RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
Total ash.	Acid Insoluble Ash.	Volatile Matter.			Fixed oil, Petroleum Ether Extract.	Total Oil, Fixed and Volatile.	Tannin.	Microscopical Examination.		
		Water.	Oil.	Total.						
J. C. FERGUSON, INSPECTOR— <i>Concluded.</i>										
p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.			
6.75	0.20	3.20	11.5	14.55	2.50	13.85		Clove Stems & Stone Cells		Foreign matter.
8.65	0.30	3.25	9.35	12.60	3.30	12.65	10.04			Ash is high; Vol. Oil is low; tannin is low.
7.10	0.10	3.29	9.00	12.27	1.50	10.50	15.76	" "		Vol. Oil is low. Foreign matter.
6.42	0.87	3.00	10.07	13.07	2.02	12.00		" "		Acid insoluble Ash is high. Foreign matter.
5.75	0.25	3.15	19.72	22.87	2.27	21.00	17.16	Clove tissues		Genuine.
7.02	0.42	3.77	12.52	16.29	3.00	15.52				

## E. BELAND, INSPECTOR.

6.50	0.30	3.95	11.55	15.50	1.75	13.30		Clove tissues	Genuine.	
5.15	0.10	4.42	21.10	25.52	1.55	22.65		"		
9.00	2.87	4.80	9.23	14.03	0.77	10.00	13.20	Ginger, Starch and Stone Cells.	Ash. Acid insoluble Ash. high. Vol. Oil is low. Foreign matter present	
6.70	0.95	2.60	8.50	11.10	1.55	9.55	13.68	Clove Stems, Stone Cells & Coconut Stone Cells	Acid insoluble Ash. high. Vol. Oil low. Foreign matter present.	
7.15	0.50	4.70	12.55	17.25	1.15	13.70		Clove tissues	Genuine.	
6.82	0.47	5.90	15.05	20.95	1.22	16.27		"		
6.70	0.45	5.02	13.05	18.67	1.05	14.70		"		
4.30	0.50	5.05	5.42	10.47	1.37	6.79	11.04	Starch and a few Clove Stone Cells.	Vol. Oil very low. Tannin low. Foreign matter.	
6.95	0.40	4.07	14.40	18.47	2.45	16.85		Clove tissues	Genuine.	
6.45	0.95	4.75	9.80	14.55	2.05	11.85	13.68	Starch and Clove Stems.	Acid insoluble Ash. high. Vol. Oil is low. Foreign matter.	

## J. C. ROULEAU, INSPECTOR.

6.50	0.45	4.05	9.35	13.40	1.35	10.70	11.04	Wheat or corn starch, clove stems and stone cells.	Vol. oil low. Tannin low. Foreign matter.	
5.45	0.20	4.57	16.27	20.84	1.82	18.09		Clove tissues	Genuine.	
7.45	0.45	3.65	11.90	15.55	1.80	13.70		Clove stems	Too many stems.	
5.20	0.10	4.35	17.22	21.57	2.45	19.67		Clove tissues	Genuine.	
4.65	0.50	4.60	7.80	12.40	0.85	8.65	7.90	Wheat starch, clove stems and stone cells.	Vol. oil low. Tannin low. Foreign matter.	



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BULLETIN No. 173—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
DISTRICT OF ST. HYACINTHE—							
1908.							
Aug. 4	Ground Gloves	180	E. J. Esty & Co., Eastman.	$\frac{1}{2}$ lb..	18	Mathewson's Sons, Montreal.	
" 5	"	181	Paradis & Leclair, Sherbrooke.	3 pkg.	24	Heron & LeBlanc, Ltd., Montreal.	
" 10	"	182	Raymond & freres, Hyacinthe.	St. 6 oz..	10	Not known..	
" 10	"	183	Albert Cadieux, Hyacinthe.	St. $\frac{1}{2}$ lb..	20	Lacaille, Gendreau & Cie, Montreal.	Labelled pure ground cloves.
" 11	"	184	E. Contu, Sorel	$\frac{1}{2}$ " ..	20	Laporte, Martin & Cie, Ltd., Mont- real.	Labelled pure cloves.
DISTRICT OF MONTREAL—							
July 18	Ground Cloves	32626	Gravel freres, St. Catherine W., Mont- real.	6 oz..	15	S. H. Ewing & Sons, Montreal.	
" 20	"	32627	E. Dion, Valleyfield, P.Q.	6 " ..	15	Not given .....	
" 20	"	32628	Leduc et freres, Valleyfield, P.Q.	6 " ..	15	Hudon Orsali, Mont- real.	
" 22	"	32629	J. R. McOuat, La- chute, P.Q.	6 " ..	13	Not given ....	Sold as pure .....
" 22	"	32630	H. J. Giles & Bro., Lachute, P.Q.	6 " ..	10	Mathewson's Sons, Montreal.	
" 28	"	32631	G. Racine, Point Clair, P.Q.	6 " ..	15	Hudon Hebert & Co., Montreal.	
" 30	"	32632	J. A. Simard & Co., St. Paul St., Mont- real.	$\frac{1}{2}$ lb..	10	Vendors .....	
" 30	"	32633	J. V. Boudrias, Notre Dame W., Montreal	6 oz..	10	Vendor .....	
" 30	"	32634	Nat. Coffee and Spice Co., St. Paul St., Montreal.	$\frac{1}{2}$ lb..	15	Vendors.....	After completion of sale vendor stat- ed that sample was sold as com- mercially pure, but contained 50 p.c. Clove Stems.
" 30	"	32635	E. C. McCoy, Hunt- ingdon, P.Q.	6 oz..	15	F. F. Dalley Co., Ha- milton.	
DISTRICT OF OTTAWA—							
July 11	Ground Cloves	22668	J. B. Kemp, Pem- broke, Ont.	6 oz..	10	Pure Gold Mfg. Co., Toronto.	Sold as ground cloves.
" 14	"	22669	Hare & McInnis, Iro- quois, Ont.	6 " ..	15	Gilmour & Co., Brockville.	Taken from a tin labelled "Cloves Bison Brand." Goods were guar- anteed. Sold as ground cloves.
" 14	"	22670	W. P. Walker, Cardi- nal, Ont.	6 " ..	12	Dalton Bros., Toron- to, Ont.	Taken from a tin marked "Bison Brand." Goods are guaranteed. Sold as ground cloves.



## SESSIONAL PAPER No. 14

## GROUND CLOVES.

RESULTS OF ANALYSIS										
Total Ash.	Acid Insoluble Ash.	Volatile Matter.			Fixed oil, Petroleum Ether Extraction.	Total Oil, Fixed and Volatile.	Tannin.	Microscopical Examination.	Remarks and Opinion of the Chief Analyst.	
		Water.	Oil.	Total.						
J. C. ROULEAU, INSPECTOR— <i>Concluded.</i>										
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.			
8.75	0.50	3.90	11.42	15.32	1.22	12.64		Clove stems and stone cells.	Ash too high. Foreign matter.	
3.30	0.40	2.77	10.85	13.62	1.90	12.75		Clove tissues; stems in excess.	Excess of stems.	
5.15	0.20	3.40	9.85	13.25	0.45	10.30	7.20	Wheat starch, clove stems and stone cells.	Vol. oil low. Tannin low. Foreign matter present.	
7.20	0.20	3.55	13.00	16.75	1.70	14.70		Clove tissues.	Foreign matter present.	
4.72	0.60	4.10	6.77	10.87	2.62	9.39	7.44	Wheat and corn starch and clove stems.	Acid insoluble ash high. Vol. oil is low; tannin low. Foreign matter.	
J. J. COSTIGAN, INSPECTOR.										
7.02	0.42	3.67	13.10	16.77	1.37	14.47		Clove tissues.	Foreign matter.	
6.92	0.50	4.25	8.65	12.90	1.52	10.17	11.28	Clove stems and stone cells.	Vol. oil is low. Tannin low. Foreign matter.	
6.10	0.50	4.50	10.00	15.40	2.27	13.22			Foreign matter.	
5.75	0.30	3.75	10.42	14.17	2.10	12.52		Starch, clove stems and stone cells.		
8.00	0.47	4.07	10.17	14.24	2.35	12.52		Clove stems and stone cells.		
4.20	0.35	4.62	6.58	11.20	2.45	9.03	6.00	Starch, some clove stems and stone cells.	Vol. oil is low. Tannin low. Foreign matter.	
6.72	0.25	3.71	13.80	17.77	3.07	16.87		Clove tissues.	Foreign matter.	
5.95	0.15	3.92	11.07	14.99	2.32	13.39		Starch, clove stems and stone cells.	Foreign matter.	
7.37	0.47	4.02	12.40	16.42	1.72	14.12		Clove tissues.	Foreign matter.	
5.75	0.20	3.90	12.95	16.85	2.43	15.38				
J. A. RICKEY, INSPECTOR.										
6.37	0.50	2.40	12.80	15.20	2.17	14.97		Clove tissues.	Foreign matter.	
6.60	0.35	3.07	8.08	11.15	0.80	8.88	7.92	Wheat starch, clove stems and stone cells.	Vol. oil low. Tannin low. Foreign matter present.	
6.05	0.20	2.90	10.65	13.55	0.50	11.15		" "	Foreign matter present.	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF OTTAWA—

1908.							
July 18	Ground Cloves	22671	John Simpson & Son, Alexandria, Ont.	6 oz..	12	Not known .....	Taken from a tin marked cloves. Sold as ground cloves.
" 18	"	22672	G. Deguire, Glen Robertson, Ont.	6 " ..	12	Laporte, Martin & Co., Montreal.....	From a box marked pure cloves. Sold as ground cloves.
" 24	"	22673	A. Cochrane, Florence St., Ottawa, Ont.	6 " ..	20	Unknown .....	From bulk. Sold as ground cloves.
" 24	"	22674	Ellis Bros., Somerset St., Ottawa, Ont.	6 " ..	20	" .....	Sold as ground cloves.
" 24	"	22675	R. Baird, Somerset St., Ottawa, Ont.	6 " ..	20	Not known .....	" ..
" 24	"	22676	Bate & Co., Bank St., Ottawa, Ont.	6 " ..	24	" .....	" ..
" 25	"	22677	G. F. Hodgins, Shawville, P.Q.	6 " ..	20	Pure Gold Mfg. Co., Toronto, Ont.	" ..

DISTRICT OF KINGSTON—

July 21	Ground Cloves	35275	J. B. Harker, Belleville, Ont.	6 oz..	15	R. Grig, Toronto....	.....
" 22	"	35276	G. Pearson, Belleville, Ont.	6 " ..	15	" .....	.....
" 22	"	35277	J. H. P. Young, Belleville, Ont.	6 " ..	15	Pure Gold, Toronto..	.....
" 22	"	35278	W. T. Patterson, Belleville, Ont.	6 " ..	15	C. H. Cochrane & Co., Ottawa.	.....
" 22	"	35279	S. Fourt, Port Hope..	6 " ..	15	W. H. Gilard & Co., Hamilton.	.....
" 23	"	35280	J. E. Lillico, Peterboro, Ont.	6 " ..	15	Pearking & I ver, Peterboro.	.....
" 23	"	35281	W. J. Routly, Peterboro, Ont.	6 " ..	15	C. Richor, Peterboro	.....
" 23	"	35282	W. H. Hamilton, Peterboro, Ont.	6 " ..	25	Todhunter & Mitchell, Toronto.	.....
" 23	"	35283	P. Connal & Son, Peterboro, Ont.	6 " ..	25	" .....	.....
" 23	"	35284	R. H. Hunter, Peterboro, Ont.	6 " ..	25	" .....	.....

DISTRICT OF TORONTO—

July 31	Ground Cloves	35144	Andrew Foster, St. Catharines.	6 oz..	15	Unknown.....	Vendor said he bought it for pure stock.
Aug. 5	"	35145	J. J. McQuarrie, Hamilton.	6 " ..	15	F. F. Dalley & Co., Ltd., Hamilton.	.....
" 7	"	35146	W. G. Monet, Port Perry.	6 " ..	25	Not known.....	Sample was purchased with a general stock of groceries at Enniskillen.
" 7	"	35147	McDowell & Co, Oshawa.	6 " ..	25	Todhunter Mitchell Co., Toronto.	.....
" 8	"	35148	J. C. Waterhouse, Whitby.	6 " ..	15	The Robt. Greig Co., Ltd., Toronto.	.....



SESSIONAL PAPER No. 14

GROUND CLOVES.

RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
Total Ash.	Acid Insoluble Ash.	Volatile Matter.			Fixed oil, Petroleum Ether Extraction.	Total Oil, Fixed and Volatile.	Tannin.	Microscopical Examination.		
		Water.	Oil.	Total.						

J. A. RICKEY, INSPECTOR—Concluded.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
7.27	0.20	2.65	14.00	16.65	2.07	16.07	....	Clove tissues.....	Genuine.
7.62	0.50	2.35	11.27	13.62	2.37	13.64	..	Clove stems....	Foreign matter.
7.30	0.45	2.85	11.30	14.15	2.00	13.30	..	Few clove stems, &c...	Foreign matter in small amount.
2.62	0.20	3.20	9.15	12.35	1.25	10.40	4.80	Starch, &c.....	Vol. oil low. Tannin low. Foreign matter.
8.00	0.50	2.65	10.97	13.62	1.95	12.92	..	Clove stems....	Foreign matter (clove stems).
6.15	0.17	2.85	16.80	19.65	1.12	17.92	..	Clove tissues....	Genuine.
5.07	0.50	3.97	7.78	11.75	1.45	9.23	12.24	Wheat starch....	Vol. oil low. Foreign matter.

J. HOGAN, INSPECTOR.

6.25	0.20	2.72	13.25	15.97	2.35	15.60	...	Clove stems and long stone cells.	Foreign matter.
6.75	0.50	2.85	14.60	17.45	2.40	17.00	..	Clove tissues....	Genuine.
5.85	0.20	2.50	17.10	19.60	2.95	20.05	..	.....	
7.80	0.95	3.20	9.62	12.82	1.17	10.79	13.44	Clove stems and stone cells.	Acid insoluble ash high; vol. oil low. Foreign matter.
...	...	...	...	...	...	...	...	.....	Spoiled by bad packing of our inspector.
6.27	0.40	2.97	9.08	12.05	1.75	10.83	12.60	Clove stems, stone cells, starch.	Vol. oil low. Foreign matter.
7.90	0.25	4.50	7.40	11.90	1.35	8.75	14.61	Clove stems and stone cells.	" "
.....	.....	.....	.....	.....	.....	.....	.....	.....	As in 35279.
7.80	1.05	3.32	10.12	13.42	2.50	12.62	..	Clove stems and stone cells.	Acid insoluble ash is high. Foreign matter.
6.60	0.20	3.25	12.87	16.12	2.67	15.61	....	Clove tissues.....	Genuine.

H. J. DAGER, INSPECTOR.

6.40	0.50	4.02	11.50	15.52	2.80	14.30	....	Starch, clove stems and stone cells.	Foreign matter.
5.85	0.35	3.90	10.12	14.02	1.47	11.59	....	Starch.....	"
6.45	0.25	3.45	12.77	16.22	2.40	15.17	....	".....	"
6.95	0.60	3.55	10.20	13.75	3.05	13.25	....	Clove stems and stone cells.	Acid insoluble ash is high. Foreign matter.
8.00	0.70	3.60	11.05	14.65	2.90	13.95	....	" ..	" "



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
DISTRICT OF TORONTO—							
1908.							
Aug. 11	Ground Cloves	35164	A. M. Rinher, Wel-	6 oz..	15	Unknown. ....	
			land.				
" 11	"	35165	Ford & Brittin, Wel-	6 " ..	15	Todhunter Mitchell	
			land.			Co., Toronto.	
" 12	"	35166	John Hickman, To-	6 " ..	15	" " ..	
			ronto.				
" 12	"	35167	E. A. Kendall, Toronto	6 " ..	15	Dalton Bros., Toronto	Sample was taken from tin labelled Dalton Bros. Cloves, B. Vendor said sample was Dalton's Cloves.
" 12	"	35168	E. Wiltse, Toronto ..	6 " ..	15	" " ..	Taken from stock tin, labelled Dalton Bros. Cloves.
DISTRICT OF LONDON—							
July 15	Ground Cloves	30939	Sturday & Co., Goder-	6 oz..	15	Gorman & Eckart,	
			ich.			London.	
" 15	"	30940	F. J. Buttand, Goder-	6 " ..	15	Dom. Drug Co., God-	
			ich.			erich.	
" 16	"	30944	Michael Klinghamer,	6 " ..	15	Gorman & Eckart,	
			Dublin, Ont.			London.	
" 20	"	30951	Mathew Williams,	6 " ..	15	F. F. Dalley & Co.,	
			Seaforth.			Hamilton.	
" 21	"	30953	A. Beattie & Co.,	6 " ..	15	Gorman Eckart & Co.,	
			Stratford.			London.	
" 21	"	30956	A. F. Lloyd, Strat-	6 " ..	15	" " ..	
			ford.				
" 22	"	30962	J. A. Stewart, Exeter	6 " ..	15	Unknown. ....	
" 29	"	30969	George Thompson,	6 " ..	15	Todhunter & Mitchell	
			Brussels.			Toronto.	
" 31	"	30970	Mr. Stewart, Stratford	6 " ..	15	Canada Spice Co., To	
						ronto.	
" 31	"	30973	J. D. Smith, St. Marys	6 " ..	15	Not known.....	
DISTRICT OF WINDSOR—							
Aug. 11	Ground Cloves	34589	Gorman Eckert & Co.,	3 car-	20	Vendors .....	Taken from stock
			London.	tons.			in factory.
" 11	"	34590	Canada Spice & Gro-	3 lb ..	25	" .....	" " ..
			cery Co., London.				
" 12	"	34592	G. T. Carley, Lambeth	9 oz..	45	Not known.....	
" 12	"	34595	Farle & Son., Lambeth	9 " ..	25	Red Feather Co.,	Packed and milled
						Hamilton.	for Red Feather
" 13	"	34598	Wm. Cross, Strathroy	9 " ..	45	Not known.....	Co.



SESSIONAL PAPER No. 14

GROUND CLOVES.

RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
Total Ash.	Acid Insoluble Ash.	Volatile Matter.			Fixed oil, Petro- leum Ether Extraction.	Total Oil, Fixed and Volatile.	Tannin.	Microscopical Examination.		
		Water.	Oil.	Total.						

H. J. DAGER, INSPECTOR—Concluded.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.				
6.00	0.32	3.62	15.57	17.19	3.25	16.82	10.08	Wheat starch and clove stems.	Tannin low. Foreign matter.	
7.00	0.25	3.47	13.17	16.64	2.80	15.97		Clove tissues.	Genuine.	
6.50	0.65	3.35	16.57	19.92	2.22	18.70		Clove stems.	Acid insoluble ash is high. Foreign matter in traces.	
5.72	0.10	3.25	18.87	22.12	1.90	20.77	16.32	Clove tissues.	Genuine.	
5.10	0.25	3.25	15.20	18.45	1.52	16.52		Wheat starch and clove stems.	Foreign matter.	

T. KIDD, INSPECTOR.

5.92	0.35	3.57	16.95	20.52	2.15	19.10	.. ..	Clove tissues.	Genuine.	
6.85	0.30	3.10	14.25	17.35	2.30	16.55		" .....		
6.25	0.45	3.35	14.47	17.82	2.00	16.47		" .....		
6.30	0.35	3.90	12.85	16.75	1.75	14.60		Clove stems and stone cells.	Foreign matter.	
6.10	0.10	2.82	16.10	18.92	3.90	20.00		Clove tissues.	Genuine.	
6.25	0.30	3.47	16.95	20.42	2.27	19.22		" .....		
6.12	0.15	2.82	13.90	16.72	1.62	15.52	.....	Some starch and clove stems.	Foreign matter.	
7.50	0.97	3.45	13.05	16.50	3.02	16.07		Clove stems and stones.	Acid insoluble ash is high. Foreign matter in small amount.	
5.55	0.15	2.70	20.25	22.95	1.87	22.12		Clove tissues.	Genuine.	
7.85	0.85	4.05	8.77	12.82	1.35	10.12	11.28	Starch, clove stems and stone cells.	Acid insoluble ash high. Vol. oil low. Tannin low. Foreign matter.	

JOHN TALBOT, INSPECTOR.

5.60	0.45	3.97	19.65	23.62	2.05	21.70		Clove tissues.	Genuine.	
5.60	0.10	4.60	20.00	24.60	3.20	23.20		" .....		
5.32	0.12	3.55	17.05	20.60	1.30	18.35		" .....		
5.45	0.40	3.45	19.12	22.57	1.65	20.77	13.44	" .....		
6.40	0.50	3.62	10.72	14.34	2.15	12.87		Clove tissues and a few stone cells.	Small quantity of foreign matter.	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		
DISTRICT OF MANITOBA—							
1908.							
Aug. 8	Ground Cloves	33157	Otto Schultz, Gretna.	6 oz..	50	Not known.....	.....
" 8	"	33158	E. Penner & Co., Gretna.	6 " ..	25	Thompson Bradshaw & Co., Toronto.	.....
" 10	"	33159	J. A. Becker, Pilot Mound.	6 " ..	20	Not known.....	.....
" 10	"	33160	J. G. McLean & Co., Pilot Mound.	3 pkg.	30	Todhunter Mitchell & Co., Toronto.	Strictly pure selected cloves.
" 10	"	33161	D. S. McKay, Pilot Mound.	6 oz..	15	Not given .....	.....
" 11	"	33162	P. Winram & Co., Manitou.	3 pkg.	45	The Codville Co., Winnipeg.	Gold standard pure spice.
" 11	"	33163	J. Wooten, Manitou.	3 " ..	25	The Blue Ribbon Ltd., Winnipeg.	.....
" 12	"	33164	Campbell Bros. & Wilson, Winnipeg.	3 " ..	19	G. L. Dunn & Co., Hamilton.....	Royal Shield brand of goods. Cloves.
" 12	"	33165	The Blue Ribbon Ltd., Winnipeg.	6 oz..	no chg.	Vendor..	.....
" 13	"	33166	The Jobin Marrin Co. Ltd., Winnipeg.	6 " ..	10	" .....	.....
DISTRICT OF CALGARY—							
Aug. 14	Ground Cloves	35321	L. T. Mewburn, Calgary.	3 tins.	25	Red Feather, Hamilton.	.....
" 14	"	35322	Tuxedo Coffee & Spice Mills, Calgary.	3 pkg.	25	Vendors.....	.....
" 17	"	35323	R. Dunn, Medicine Hat.	3 tins.	30	F. F. Dalley Co., Hamilton.	.....
" 17	"	35324	D. Milne Co., Ltd., Medicine Hat.	3 " ..	30	Blue Ribbon Mfg. Co., Winnipeg.	.....
" 19	"	35325	Hudson Bay Co., Lethbridge.	3 " ..	30	Unknown .....	.....
" 19	"	35326	Bently Co., Ltd., Lethbridge.	3 " ..	30	Imperial Spice Co., Hamilton.	.....
" 22	"	35327	Wilkin & Jones, Fort Saskatchewan	3 " ..	30	Red Feather Co., Hamilton.	.....
" 22	"	35328	Shera & Co., Fort Saskatchewan	3 " ..	30	The Dyson Co., Winnipeg.	.....
" 25	"	35329	Hudson Bay Co., Edmonton	3 " ..	30	Unknown.....	.....
" 25	"	35330	Acme Co., Ltd., Edmonton.	3 " ..	30	Hamilton Coffee & Spice Co., Hamilton.	.....
DISTRICT OF VANCOUVER—							
July 31	Ground Cloves	34315	C. E. Turner, Vancouver.	3 tins.	30	Kelly, Douglas & Co., Vancouver.	Guaranteed finest quality and full strength.
" 31	"	34316	J. F. May, Vancouver	6 oz..	15	W. Braid & Co., Vancouver.	.....
" 31	"	34317	Baitig & Petch, Vancouver.	6 " ..	15	Empress Mfg. Co., Vancouver.	.....
" 31	"	34318	The White Thomson Co., Vancouver.	3 tins.	30	" ..	Empress Brand. ..



SESSIONAL PAPER No. 14  
GROUND CLOVES

RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
Total Ash.	Acid Insol- uble Ash.	Volatile Matter.			Fixed oil, Pet- roleum Ether Extraction.	Total Oil, Fix- ed and Volatile.	Tannin.	Microscopical Examination.		
		Water.	Oil.	Total.						

A. C. LARIVIERE, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
6.10	0.10	3.05	13.90	16.95	2.87	16.77	..	Clove tissues .....	Genuine.
6.40	0.40	3.42	12.10	15.52	4.17	16.27	.....	" .....	"
5.60	0.12	3.30	17.95	21.25	2.00	19.95		" .....	"
7.05	0.40	4.32	12.02	16.34	1.62	13.64		" .....	"
7.42	0.35	3.87	11.40	15.27	2.50	13.90	..	Clove stems. ....	Too many stems.
5.25	0.10	4.22	20.55	24.77	2.20	22.75		Clove tissues .....	Genuine.
6.10	0.50	3.15	20.62	23.77	1.15	21.77	.....	" .....	"
6.45	0.50	3.95	11.85	15.80	0.62	12.47	..	Clove stems and stone cells.	Foreign matters of small amount.
5.50	0.20	2.85	20.57	23.42	1.07	21.64		Clove tissues .....	Genuine.
7.10	0.50	4.15	10.65	14.80	1.90	12.55		Clove tissues and a few stone cells.	Foreign matter in small amount.

R. W. FLETCHER, INSPECTOR.

5.85	0.10	3.00	17.32	20.32	0.80	18.12	..	Clove tissues.....	Genuine.
5.00	0.20	3.65	16.50	20.15	2.22	18.72		" .....	"
6.55	0.85	4.60	12.70	17.30	1.35	14.05		" .....	Acid insoluble ash is high.
...	...	...	...	...	...	...		" .....	Lost through bad packing
5.92	0.17	3.45	18.75	22.20	1.00	19.75		Clove tissues .....	Genuine.
7.87	0.50	4.60	11.32	15.92	1.20	12.52	..	Clove stems and stone cells.	Foreign matter.
5.42	0.32	3.10	22.55	25.65	4.10	26.65		Clove tissues.....	Genuine.
7.05	0.37	3.72	11.17	14.89	1.95	13.12		" .....	"
6.25	0.20	3.50	15.12	18.62	2.20	17.32		" .....	"
5.90	0.12	4.25	16.20	20.45	1.65	17.85	...	" .....	"

J. F. POWER, INSPECTOR.

5.20	0.20	2.72	22.75	25.47	1.85	24.60	14.40	Clove tissues.....	Genuine.
3.10	0.15	2.80	10.00	12.80	2.50	12.50	..	Wheat starch, clove stems and stone cells.	Foreign matter.
5.00	0.10	2.97	14.97	17.94	1.95	16.92	.....	" .....	"
7.35	0.45	3.37	13.90	17.27	2.32	16.22	.....	Clove tissues.....	Genuine.



Date of Collection.	Nature of Sample.	No of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF VANCOUVER—

1908.							
July 31	Ground Cloves	34319	Webster Bros., Vancouver.	6 oz..	15	Todhunter Mitchell & Co., Toronto.	.....
" 31	"	34320	Howell & Weir, Vancouver.	6 "	20	Pioneer Coffee & Spice Mills, Victoria, B.C.	... ..
Aug. 1	"	34321	Healby & Jackson, Vancouver.	3 tins.	30	E. R. Durke & Co., New York, U.S.A.	Guantlet Brand Guaranteed under Food and Drugs Act.
" 1	"	34322	H. J. Hampton, Vancouver.	6 oz..	15	Dalton Bros., Toronto	.....
" 4	"	34323	Empress Mfg. Co., Vancouver.	9 " ..	15	Unknown ....	Purchased at the factory.
" 4	"	34324	W. Braid & Co., Vancouver.	9 " ..	15	Vendors... ..	"

DISTRICT OF VICTORIA—

July 21	Ground Cloves	34947	Windsor Grocery Co..	3 car- tons.	45	Pioneer Coffee & Spice Mills, Victoria, B.C.	Extra quality cloves.
" 21	"	34953	Saunders Grocery Co., Ltd.	3 " .	25	E. R. Durke & Co., New York, U.S.A.	Durke's Guantlet Brand Cloves.
" 23	"	34955	Victoria Coffee & Spice Mills, Victoria, B.C.	3 " ..	30	Victoria Coffee & Spice Mills, Victoria, B.C.	Victoria Brand Pure Cloves.
" 25	"	34957	Fred Carne	3 pkts	30	Braid, Vancouver, B.C.	Braid's Cloves ....
" 23	"	34958	"	6 oz..	25	Pioneer Coffee & Spice Mills, Victoria, B.C.	.....
" 23	"	34961	West End Grocery Co., Ltd.	3 car- tons.	45	Victoria Coffee & Spice Mills, Victoria, B.C.	Victoria Brand Pure Cloves.
" 23	"	34962	"	6 oz..	10	Todhunter Mitchell & Co., Toronto, Ont	.....
" 23	"	34965	J. W. Speed.....	3 car- tons.	30	Blue Ribbon Mfg Co., Winnipeg, Man.	Blue Ribbon Pure Cloves.
" 23	"	34966	W. O. Wallace.....	3 " ..	45	A. Shilling & Co., San Francisco, Cal.	Shilling's best Cloves.
" 24	"	34969	Dixi H. Ross & Co...	3 " .	30	Todhunter Mitchell & Co., Toronto, Ont	Dixi H. Ross and Co's. Pure Cloves



SESSIONAL PAPER No. 14  
GROUND CLOVES.

RESULTS OF ANALYSIS.										Remarks and Opinion of the Chief Analyst.
Total Ash.	Acid Insoluble Ash.	Volatile Matter.			Fixed Oil, Pet- roleic Ether Extraction.	Total Oil, Fix- ed and Volatile	Tannin	Microscopical Examination.		
		Water.	Oil.	Total						

J. F. POWER, INSPECTOR—Concluded.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
6.10	0.15	3.80	15.85	19.65	1.70	17.55		Clove tissues	Genuine.
4.55	0.10	3.25	13.17	16.42	2.07	15.24			
6.10	0.27	2.80	21.30	24.10	1.52	22.82			
6.57	0.50	3.70	7.45	11.15	1.50	8.95	8.06	Wheat starch, clove stems	Tannin low. Foreign matter.
6.27	0.90	4.17	12.32	16.49	2.00	14.32		Clove tissues and a few stone cells.	Acid insoluble ash is high. Small quantity of foreign matter.
6.00	0.27	4.37	15.47	19.84	2.32	17.79		Clove tissues. . . . .	Genuine.

D. O'SULLIVAN, INSPECTOR.

5.67	0.50	3.67	17.75	21.42	1.75	19.50		Wheat starch and a few Foreign matter. stems.	
5.55	0.25	3.10	22.47	25.57	0.85	23.32		Clove tissues. . . . .	Genuine.
5.92	0.30	3.52	18.97	22.49	0.60	19.57		" . . . . .	
5.72	0.12	3.67	11.37	15.02	1.32	12.69		" . . . . .	
5.80	0.35	3.30	13.82	17.12	1.30	15.12		" . . . . .	
7.02	0.17	4.00	14.70	18.70	0.95	15.65		" . . . . .	
5.10	0.25	3.22	19.27	22.49	3.50	22.77		" . . . . .	
6.00	0.40	3.05	18.15	22.20	1.00	20.15		" . . . . .	
4.80	0.20	3.25	24.52	27.77	1.05	25.57	12.96	" . . . . .	
7.25	0.90	3.65	12.75	16.40	0.85	13.60		" . . . . .	Acid insoluble ash is high.







APPENDIX X.

BULLETIN No. 174—BAKING POWDERS

WM. HIMSWORTH, Esq.,  
Acting Deputy Minister of Inland Revenue.

SIR,—I have the honor to report upon the examination of 158 samples of Baking Powders, purchased throughout the Dominion of Canada in October, 1908. The following table gives further details:—

Inspectoral District.	Composition of Baking Powder.			
	Cream of Tartar.	Alum Phosphate	Alum.	Total.
Nova Scotia.....	8	2	0	10
Prince Edward Island.....	6	4	0	10
New Brunswick.....	7	3	0	10
Quebec.....	6	7	4	11
St. Hyacinthe.....	3	6	1	10
Montreal.....	1	5	4	10
Ottawa.....	4	6	0	10
Kingston.....	10	0	0	10
Toronto.....	1	9	0	10
London.....	4	9	4	17
Windsor.....	3	6	1	10
Manitoba.....	0	10	0	10
Calgary.....	2	8	0	10
Vancouver.....	5	5	0	10
Victoria.....	6	4	0	10
	65	84	14	158

One sample (No. 22742, Ottawa), while owing its chief acidity to Cream of Tartar, contains also burnt alum, and should not, in strict accuracy, be classified with the Cream of Tartar Powders.

Baking powders have, on two previous occasions, been made the subject of examination in this laboratory. The first report was published in Bulletin No. 10, in June, 1889; the second as Bulletin No. 68, in April, 1900. At the time of the first report, several samples were found to contain carbonate of ammonia, as a gas producing constituent; a few contained free tartaric acid as the acid component, and one brand contained bi-sulphate of potash.

Baking Powders, as now found in commerce, owe their gas producing power to bi-carbonate of soda, in admixture with one or other of the following:—

- (1) Cream of Tartar, with, in some cases the addition of small amounts of free tartaric acid;
- (2) Burnt Alum,
- (3) A mixture of burnt alum with acid phosphate



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of lime. It is interesting to compare the proportions of these three types of Baking Powder, as found on inspection in 1889, 1900 and 1908.

Date of Inspection.	Cream of Tartar.	Alum.	Alum Phosphate.	Total.
1889 .....	73	5	59	137
1900 .....	54	31	83	168
1908 .....	60	14	84	158
	187	50	226	463

It is apparent that the type known as alum phosphate baking powder, has become increasingly popular since 1889.

The qualities demanded in a satisfactory baking powder, are:—

1. Efficiency as a gas producer.
2. That the gas be generated gradually, and only completed at the temperature of the oven.
3. That the powder keep well, either on the grocer's shelves or in the kitchen.
4. That the residues left in the bread should be harmless to health, and without undesirable taste or discolouring power.
5. That the powder be sold at a low price.

I have not attempted to enumerate these conditions of value in the order of their importance, for the simple reason that this will be different for different people. It must be inferred, from the table above given, that the alum phosphate powder meets the case, in the opinion of the Canadian consumer. A few words of comment and explanation may be offered.

1. *Efficiency as gas producer.* Since the gas, (carbon dioxide) evolved from any one of these types of baking powder is dependent upon the decomposition of bi-carbonate of soda, contained therein, it would seem at first sight, that the powder containing most bi-carbonate of soda would be the best. Unless, however, the acid component be present in sufficient amount to completely decompose the bi-carbonate, a residum of carbonate, of soda remains in the bread, and gives a yellow, mottled appearance, and a soapy taste to it. For this reason, the amount of bi-carbonate of soda that can be present in a baking powder is limited to the acid-value of the complementary component. The maximum amount of bi-carbonate of soda which can be (theoretically) present in the three types of powder here considered, is as follows:—

	Bi-Carbonate of Soda.	Available gas.
1. Cream of Tartar powder .....	30·8 p.c.	16·18 p. c.
2. Alum Powder (See Bull. 10, p. 28) .....	51·5 "	27·00 "
3. Alum phosphate powder (See Bull. 26, p. 22).....	39·65 "	20·77 "

(As a matter of fact, it is not possible to fix a limit value to the alum phosphate powder, since varying proportions of the alum and phosphate of lime in the mixture cause the acid values to vary between the limits for 100 per cent alum and 100 per cent acid phosphate of lime. For a commercial sample of the latter (Bull. 26, p. 22) the values 29·5 p.c. bi-carb. soda = 15·5 p.c. gas, were found).



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The theoretical limits above quoted are not available in practice for the reason that, unless some third substance, of an inert character, is added, the mixture will more or less rapidly deteriorate, through the presence of traces of moisture in the powder itself or by access of moisture from the air. It is usual to employ starch (flour or maize) as the filler; but in alum phosphate powders, sulphate of lime (terra alba), as well as starch, is usually found. This terra alba is not necessarily added intentionally, but is a by product in the manufacture of acid phosphate of lime. It is further to be noted that the limits mentioned are only possible where the acid component is chemically pure, a condition not to be looked for, and very seldom occurring in commerce. If we assume commercial cream of tartar of good quality to be 94-95 per cent pure and a filler (starch) to be added in the proportion of 20 per cent by weight, the resultant baking powder would have the following composition:—

	Per cent.
Bi-carbonate of soda.....	23·7
Cream of Tartar .....	56·3
Starch .....	20·0
	<hr/>
	100·0

Such a baking powder is capable of developing 12·38 per cent, by weight of gas, and may be considered as a typical, high class cream of tartar powder.

2. Gradual development of the gas is important because gas must be continuously produced while the bread is in the oven, and until the dough 'sets,' i.e. becomes hard enough to retain its size and shape when cool. Otherwise, collapse of the loaf results, and the bread is 'heavy' or 'sad.' Fulfilment of this condition depends chiefly upon the sparing solubility of the acid ingredient of the powder. Cream of tartar, alum (dehydrated), and alum phosphate of lime are found to meet necessary conditions. Doubtless the too ready solubility of tartaric acid, bi-sulphate of potash and acid phosphate of lime (per se) is the reason why these substances are now so seldom used in baking powders.

3. The keeping qualities of the powder depend upon the thorough drying of the components, separately; the proper employment of a filler, and the careful protection of the finished powder from atmospheric damp.

4. With exception of the starch used as a filler, the components of baking powders have no food value, and must be regarded as, at best, indifferent and perhaps positively harmful. When cream of tartar is the acid component, the residue is Rochelle salt, a gentle aperient and probably doing no harm to healthy people.

With alum, the residue is a mixture of alumina and sulphate of soda (Glauber's salt), the latter a powerful purgative and the former an insoluble substance. In alum phosphate powders, the residue is a mixture of phosphate of alumina, or alumina; Glauber's salt, and phosphate of soda. The last is a gentle purgative.

A great deal of discussion has taken place regarding the harmful effects of these various residues; and the matter cannot be taken as finally settled.

The above statements assume that the reaction between bi-carbonate of soda, and the acid ingredient of the powder, is completed during the process of baking; and that the components have been so nicely balanced, that the resultant bread is free from either component in excess. It is safe to say that this condition is very seldom, and probably never fulfilled. In such case, if any considerable excess of bi-carbonate of soda exists in the powder, the resultant bread will contain yellow spots, due to carbonate of soda (same as washing soda) and will have a soapy taste. If the acid used be in excess, the resultant bread will contain unchanged cream of tartar, or alum. The last named is known to be injurious to health, and its possible presence is the main reason for preferring powders made without alum. Manufacturers seek to prevent the possibility of residual alum by adding a distinct excess of bi-carbonate of soda, to these powders. By consulting the appended tables it will be seen that this excess, in the case of alum phosphate powders runs from three to four or more per cent. The number given in the column headed 'residual carbon dioxide' must be multiplied by  $\frac{44}{45} = 1·91$  to give the excess in terms of bi-carbonate of soda.



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It is not necessary to add so great an excess of bi-carbonate to a cream of tartar powder, because the reaction between cream of tartar and bi-carbonate is more definite than that between burnt alum and bi-carbonate. The great insolubility of burnt alum renders the completion of the reaction, at the temperature of baking, and in presence of the limited amount of water present in dough, very uncertain.

5. The question of cheapness in a baking powder is too complex to be discussed at length in this place. Bi-carbonate of soda is quoted at \$1.50 per 100 lbs. f.o.b., Montreal; cream of tartar at \$18 per cwt.; burnt alum and acid phosphate of lime are low-priced articles; but I have not been able to get actual figures.

It is evident that the cost of *making* a baking powder is chiefly dependent upon the price of the acid component. The cost of *using* a baking powder is a different matter. Here the question of effect upon the health comes into consideration, and the price of the article may cut a small figure in the transaction.

In the absence of any legal definition of baking powder, it is, of course, impossible to classify the samples now reported, as genuine or adulterated, so long as they do not contain anything known to be injurious to health. This report serves the purpose of furnishing information regarding baking powder, as now found on the Canadian market; and it is to be hoped that this knowledge may enable a definition of baking powder to be formulated.

Under the heading 'Available carbon dioxide' in the accompanying tables, will be found the maximum percentage weight of leavening gas obtainable in baking. From what has been already said, we know that a good cream of tartar powder should yield about 12.5 per cent of gas. Any powder which yields more than this amount, almost certainly contains free tartaric acid, or burnt alum. Since any baking powder deteriorates more or less on keeping, we can only expect 12.5 per cent of gas in a perfectly fresh powder. Experience proves, however, that a well-packed baking powder may be kept for several months, or even for a year, without very material change. I am of opinion that a minimum limit of 10 per cent available gas would be quite reasonable; and that there is no necessity for having on the market any baking powder possessing less than 10 per cent of available gas production.

When the reaction between the bi-carbonate of soda and the acid present in the powder is completed, the further addition of acid will cause the evolution of more carbon dioxide gas, provided that an excess of bi-carbonate of soda is present in the powder. The amount of such gas evolved affords a measure of the excess of bi-carbonate in the powder. It must be understood that this additional gas, while available to the analyst in the laboratory, is not available to the cook, in ordinary baking operations. The column headed 'Residual carbon dioxide' contains the numbers so obtained. This number should be small, in a carefully prepared powder.

The starch component in a baking powder is of no importance, except so far as the presence of a high percentage of starch necessitates a lowered percentage of the active components. On account of its high acidity burnt alum permits the use of a high starch percentage, and it is no unusual thing to find from 45 to 50 per cent of starch in alum powders. Alum phosphate powders usually contain from 35 to 45 per cent of starch. As already shown, a good cream of tartar powder cannot contain much above 20 per cent of starch. This may, however, be considerably increased without lowering the efficiency of the powder, if free tartaric acid is made to take the place of an equal weight of cream of tartar.

Sulphate of lime (terra alba) is an undesirable filler. It is usually present in phosphate powders, as the acid phosphate of lime is manufactured by treatment of the neutral phosphate with sulphuric acid, leaving in the product an equivalent weight of sulphate of lime. Less objection can be taken to this modicum of sulphate of lime, than to the addition of terra alba, as such, to the baking powder. While having no positively harmful effect, terra alba has the objectionable qualities of great insolubility and total lack of food value.

It is sometimes claimed for it that being less hygroscopic than starch, it makes a better filler, enabling the powder to be kept longer without deterioration. I believe that the majority of consumers would prefer some form of starch, and with reason.



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In the following table the different samples of like brands have been brought together, and average results calculated. These averages must not be taken for more than they are worth. The length of time that a sample has lain on the grocer's shelves, and the mode of its packing have much to do with the findings of analysis. Every baking powder is at its best when quite fresh.

CREAM OF TARTAR (TARTARIC ACID) POWDERS.

ACORN.

Number.	Available gas.	Total gas.	Residual gas.	Excess Bi carbonate Soda.
31388 .....	8.13	10.10	1.97	3.76
29818 .....	9.22	12.43	3.21	6.13
Means .....	8.65	11.26	2.59	4.94

BUTTERMILK (CONTAINS ALUM).

22742 .....	16.84	16.84	0.00	0.00
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CLEVELAND'S SUPERIOR.

36049 .....	11.66	11.92	0.86	1.64
36051 .....	11.68	11.87	0.79	1.51
36053 .....	10.22	10.87	0.65	1.24
36142 .....	10.14	10.81	0.67	1.28
30501 .....	10.15	10.77	0.62	1.19
Means .....	10.53	11.25	0.72	1.37

COOK'S FRIEND.

848 .....	9.27	10.40	1.13	2.46
22745 .....	9.61	10.94	1.33	2.54
Means .....	9.44	10.67	1.23	2.35

DEARBORN'S PERFECT.

31381 .....	10.54	11.98	1.44	2.75
29815 .....	11.87	12.85	0.98	1.87
29822 .....	12.10	13.51	1.41	2.69
Means .....	11.50	12.78	1.28	2.44

ENGLISH CREAM.

22739 .....	12.12	13.06	0.94	1.79
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IMPERIAL.

39247 .....	7.98	7.88	0.80	1.53
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JOHNSONS.

31385 .....	10.79	12.30	1.51	2.89
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McLAREN'S INVINCIBLE.

Number.	Available gas.	Total gas.	Residual gas.	Excess Bi-carbonate Soda.
34368 .....	10·28 .	10·83	0·55	1·05
39250 .....	11·58	12·54	0·96	1·83
29819 .....	8·75	9·77	1·02	1·95
29823 .....	9·10	10·34	1·24	2·37
Means .....	9·93	10·87	0·94	1·80

PERFECT CREAM OF TARTAR.

31366 .....	9·15	9·15	0·00	.....
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PRICES CREAM.

35449 .....	12·02	12·76	0·74	1·41
35452 .....	12·23	12·86	0·63	1·20
34362 .....	11·59	12·45	0·86	1·64
39242 .....	11·80	12·84	1·04	1·99
Means .....	11·91	12·73	0·82	1·56

PURE GOLD.

31390 .....	9·46	9·64	0·18	0·34
36046 .....	10·38	10·38	0·00	0·00
36055 .....	10·38	10·83	0·45	0·86
Means .....	10·07	10·28	0·21	0·40

ROYAL.

33738 .....	11·55	12·30	0·75	1·43
31383 .....	11·36	12·36	1·00	1·91
29816 .....	11·68	12·20	0·52	0·99
859 .....	12·67	12·92	0·25	0·48
22741 .....	11·59	12·39	0·79	1·51
36047 .....	11·82	12·80	0·98	1·87
36050 .....	12·21	13·06	0·85	1·62
36054 .....	11·49	12·31	0·82	1·57
30980 .....	12·45	13·22	0·77	1·77
34365 .....	12·44	13·44	1·00	1·91
39251 .....	11·17	11·95	0·78	1·49
Means .....	11·86	12·63	0·78	1·52

ST. GEORGE'S.

33739 .....	9·57	11·10	1·53	2·92
31386 .....	10·55	12·10	1·55	2·96
29814 .....	8·54	9·98	1·44	2·75
32751 .....	10·14	10·99	0·85	1·62
36048 .....	9·37	10·99	1·62	3·09
30987 .....	9·61	10·10	0·49	0·93
34361 .....	10·19	11·56	1·37	2·61
39246 .....	9·73	11·22	1·49	2·84
856 .....	8·74	10·84	2·10	4·01
Means .....	9·60	10·99	1·38	2·64



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## STRONGS.

Number.	Available gas.	Total gas.	Residual gas.	Excess Bi-Carbonate Soda.
36052 .....	11.30	12.87	1.57	2.99
30547 .....	12.10	13.61	1.51	2.88
34627 .....	12.29	14.10	1.81	3.46
Means .....	11.89	13.53	1.63	3.11

## SCHILLINGS' BEST.

36244 .....	13.79	15.00	1.21	2.31
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## WOODILL'S GERMAN.

33740 .....	8.37	8.67	0.30	0.58
33741 .....	8.01	8.16	0.15	0.29
33742 .....	8.51	8.84	0.33	0.63
33744 .....	8.80	10.02	1.22	2.33
33745 .....	8.44	8.74	0.30	0.58
33746 .....	8.58	11.03	2.65	5.06
Means .....	8.42	9.24	0.82	1.58

## NO BRAND NAMED.

34666 .....	12.45	12.45	acid reaction	
34677 .....	13.23	15.68	0.45	0.86

## ALUM BAKING POWDERS.

Brand.	Number.	Available gas.	Total gas.	Residual gas.	Excess bi-carbonate soda.
Capital .....	34421	8.01	8.88	0.87	1.66
Champlain .....	34422	12.17	12.57	0.40	0.77
Excelsior .....	32748	9.70	10.46	0.76	1.45
Harvest home .....	30516	17.04	17.04	0.00	0.00
Kitchen Queen .....	32747	11.17	11.88	0.71	1.36
" .....	30994	11.02	11.85	0.82	1.57
" .....	30534	11.62	12.30	0.68	1.29
Means .....		11.27	12.01	0.74	1.40
Gem .....	853	12.30	12.30	neutral reac- tion.	
Laurier .....	34418	6.41	6.41	acid n excess.	
Ocean .....	32746	9.66	10.90	1.24	2.37
Princess .....	32755	13.28	14.30	1.02	1.95
Star .....	34631	16.34	16.69	0.35	0.67
" .....	34428	12.59	13.26	0.67	1.28
" .....	30507	9.55	10.30	0.75	1.43



ALUM PHOSPHATE POWDERS.

Brand.	Number.	Available gas.	Total gas.	Residual gas.	Excess bi-carbonate soda.
Art....	32754	8·30	9·17	0·87	1·66
	36137	9·43	10·77	1·34	2·56
Means ..		8·86	9·97	1·10	2·11
Bee.....	31384	10·94	10·94	0·00	0·00
	29821	9·62	11·55	1·94	3·70
	22743	1·95	1·95	acid.	
Means.....		7·50	8·15	0·64	1·23
Blue Ribbon...	35748	11·17	12·08	0·91	1·74
	35446	10·05	11·35	1·30	2·49
	35448	10·40	11·69	1·29	2·46
	35454	10·30	11·79	1·49	2·84
Means.....		10·48	11·73	1·27	2·38
Chagnons ... Conley & Gost Cooks Choice. Crescent..... Crest...	32750	10·81	12·85	2·04	3·89
	35742	10·36	11·45	1·10	2·10
	31389	8·00	9·58	1·58	3·01
	39249	5·75	5·75	acid.	
	36139	12·00	13·35	1·35	2·58
	30538	10·84	13·03	2·19	4·18
	30542	10·56	12·70	2·14	4·09
Means.....		11·13	13·03	1·89	3·62
Export..... Feather Light Forest City...	34419	11·73	13·93	2·20	4·20
	39243	12·16	13·96	1·80	3·44
	36136	10·38	11·49	1·11	2·12
	30512	9·04	11·18	2·14	4·09
	30543	10·90	12·60	1·70	3·25
	30992	10·44	12·07	1·63	3·11
Means.....		10·19	11·83	1·65	3·14
Gold Cross..... Golden Crown..... Gold Standard..... Gold Star..... Golden West..... Green & Whitakers..... Hortons..... Jersey Cream..... ".....	34433	11·18	11·88	0·70	1·34
	34367	3·30	4·16	0·86	1·64
	35743	11·34	12·85	1·51	2·88
	34426	12·24	12·24	0·00	0·00
	34363	12·07	13·41	1·34	2·56
	35453	9·00	10·83	1·83	3·49
	36145	12·11	13·32	1·21	2·31
	36140	3·95	4·89	0·94	1·79
	34639	7·06	7·77	0·71	1·36
Means.....		5·50	6·33	0·83	1·58
Kings....	851	10·88	13·15	2·27	4·33



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ALUM PHOSPHATE POWDERS—*Concluded.*

Brand.	Number.	Available gas.	Total gas.	Residual gas.	Excess Bi-carbonate Soda.
Magic .....	33737	9.52	11.31	1.79	3.41
	33743	5.76	7.34	1.58	3.01
	31382	12.02	13.67	1.63	3.11
	31387	7.17	9.15	1.98	3.78
	29817	8.44	9.54	1.10	2.10
	34420	11.79	13.47	1.68	3.21
	32752	12.28	14.01	1.73	3.30
	22740	12.49	14.10	1.61	3.08
	22746	12.41	14.12	1.71	3.27
	22748	10.23	11.62	1.39	2.67
	36141	10.80	12.43	1.63	3.11
	30508	7.08	8.50	1.42	2.71
	30522	12.31	13.94	1.63	3.11
	30533	13.16	14.40	1.24	2.37
	30996	11.53	13.54	2.01	3.84
	34628	13.34	15.04	1.70	3.25
	34638	13.13	14.26	1.13	2.16
	35744	12.05	13.81	1.76	3.36
	35747	11.78	13.65	1.87	3.57
	35447	12.77	14.14	1.37	2.61
	35451	13.55	14.85	1.30	2.49
	35455	11.26	12.46	1.20	2.29
	34360	13.07	14.68	1.61	3.03
	39245	22.41	14.51	2.10	4.01
	858	9.11	10.98	1.84	3.51
Means .....		11.18	12.78	1.61	3.06
Maple Leaf.. New York.... Ocean Ocean Wave.. O. K. Our Flag Purity Quaker Quaker Maid. Queen Red Cross ... Reliance ...	36138	10.12	12.06	2.24	4.28
	855	11.60	12.42	0.82	1.57
	849	10.63	12.23	1.60	3.63
	36143	11.29	13.00	1.71	3.27
	852	8.55	9.24	0.73	1.89
	34432	10.53	11.46	0.87	1.66
	22747	10.12	11.42	1.31	2.50
	22744	12.59	14.47	1.88	3.59
	35749	10.68	13.20	2.52	4.81
	34424	9.95	11.87	1.92	3.67
	22746	10.19	11.56	1.71	3.27
	35450	9.34	10.00	1.65	2.58
	39248	8.44	9.34	0.90	1.72
Means...		8.89	10.01	1.12	2.15
Richmond Special. St. Jerome.. Stewarts Sutherland.. Tip Top White Lily.. White Rose.. White Star.	32753	10.70	13.00	2.60	4.97
	854	13.28	13.70	0.42	0.84
	35741	11.85	13.37	1.52	2.90
	35740	11.90	13.64	1.74	3.32
	36144	13.51	14.30	0.79	1.51
	34369	10.66	11.74	1.08	2.06
	32749	9.65	10.20	0.55	1.05
	35745	12.72	11.97	1.25	2.30
	34364	7.12	8.61	1.49	2.84
Means...		8.92	10.29	1.37	2.61
White Swan	29820	13.46	14.27	0.81	1.55
	34431	6.06	16.92	10.86	20.75
	34611	11.03	12.37	1.34	2.56
	34614	11.78	14.20	2.42	4.62
	34633	7.44	8.02	0.58	1.11

I would respectfully recommend the publication of this report as Bulletin No. 174.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL, Chief Analyst.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF NOVA SCOTIA—

1908.							
Oct. 14	Bak'g Powder	33737	R. P. Stevenson, Sydney, N.S.	3 tins.	30	E. W. Gillett Co., Toronto.	Magic Brand (195).
" 15	" ..	33738	Angus & Pollock, Truro, N.S.	3 " ..	45	Royal Baking Powder Co., New York	(Royal). . . . .
" 16	" ..	33739	Cornwallis Trading Co., Canning, N.S.	3 " ..	45	Nat. Drug & Chem. Co. of Canada.	St. George's Brand
" 17	" ..	33740	H. W. Richardson, Windsor, N.S.	3 jars.	30	W. M. D. Pearman, Halifax, N.S.	Labeled Woodill's German Baking Powder.
" 19	" ..	33741	T. W. Brown, Halifax, N.S.	3 pkgs	15	" " ..	" ..
" 19	" ..	33742	A. J. Findlay, Halifax, N.S.	3 " ..	15	" " ..	" ..
" 20	" ..	33743	A. D. Bruce, Halifax, N.S.	3 tins.	30	E. W. Gillett Co., Toronto, Ont.	Magic Brand (Old label.)
" 20	" ..	33744	J. J. Skerry, Halifax, N.S.	3 pkgs	10	W. M. D. Pearman, Halifax, N.S.	Woodill's German.
" 21	" ..	33745	E. W. Crease & Co., Halifax, N.S.	3 " ..	15	" " ..	" ..
" 21	" ..	33746	E. A. Thomas, Halifax, N.S.	3 " ..	15	Woodill Mf'g Co., Halifax, N.S.	(Woodill's new process.

DISTRICT OF PRINCE EDWARD ISLAND—

Oct. 28	Bak'g Powder	31381	Wright Bros., Victoria	3 cans	36	St. John Coffee & Spice Mills, St. John, N.B.	"Dearborn perfect" Baking Powder. Absolutely pure. A pure Cream of Tartar powder.
" 28	" ..	31382	Ewen McKinnon, Hampton.	3 " .	30	E. W. Gillett, Toronto.	Magic Baking Powder (238).
" 28	" ..	31383	J. F. Mahar, Charlottetown.	3 " ..	60	Royal Baking Powder Co., New York.	Absolutely pure. Vendors Authorized to guarantee it to Customers (Royal).
" 28	" ..	31384	F. L. Smith, Charlottetown.	3 " ..	30	Snowdon, Forbes & Co., Montreal.	"Bee" Brand Baking Powder.
" 28	" ..	31385	George Rackham, Charlottetown.	3 " ..	60	Johnson & Johnsan, Charlottetown.	"Johnson's" Baking Powder guaranteed chemically pure.
Nov. 3	" ..	31386	John McKenna, Charlottetown.	3 " ..	45	Nat. Drug & Chem. Co. of Canada, Ltd. Montreal.	(St. George's). . . .
" 5	" ..	31387	Thos. Wilkinson, Alberton.	3 " ..	45	E. W. Gillett & Co., Toronto.	"Magic" Baking Powder, (183).
" 6	" ..	31388	G. A. Shelfoon, Tignish.	3 " ..	75	Maritime Spice & Coffee Co. Ltd., St. John, N.B.	(Acorn). . . . .
" 6	" ..	31389	Robert Ellis, O'Leary	3 " ..	36	Cook's Choice Baking Powder.	(Cook's Choice). . .
" 10	" ..	31390	McDonald & Son, Murray River.	3 " ..	30	Pure Gold Mf'g Co.	(Pure Gold). . . . .



SESSIONAL PAPER No. 14  
BAKING POWDER.

RESULTS OF ANALYSIS.					Character of Powder.	Style of Packaga.	Remarks, and Opinion of the Chief Analyst.
Carbon Dioxide.			Starch.				
Avail- able.	Resid- ual.	Total.	per cent.	Kind.			

R. J. WAUGH, INSPECTOR.

p. c.	p. c.	p. c.	p. c.				
9.52	1.79	11.31	37.32	Maize...	Alum Phosphate..	Can..	
11.55	0.75	12.30	24.80	"	Cream of Tartar	"	
9.57	1.53	11.10	25.18	"	"	"	
8.37	0.30	8.67	41.02	Wheat....	"	Transfer paper applied	
8.01	0.15	8.16	41.26	"	"	Paper Package..	
8.51	0.33	8.84	38.93	"	"	"	
5.76	1.58	7.34	40.83	Maize...	Alum Phosphate..	Can	
8.80	1.22	10.02	35.68	Wheat..	Cream of Tartar	Paper Package..	
8.44	0.30	8.74	42.89	"	"	"	
8.38	2.65	11.03	37.38	"	"	"	

THEO. MOORE, INSPECTOR.

10.54	1.44	11.98	17.05	Maize..	Cream of Tartar	Can..	
12.02	1.65	13.67	39.07	"	Alum Phosphate ..	"	
11.36	1.00	12.36	29.93	"	Cream of Tartar	....	
10.94	Slight acid reac'n	10.94	46.50	"	Alum Phosphate	"	
10.79	1.51	12.30	19.90	Rice..	Cream of Tartar	"	
10.55	1.55	12.10	23.46	Maize....	"	"	
7.17	1.98	9.15	41.40	"	Alum Phosphate	"	
8.13	1.97	10.10	18.97	Maize and wheat.	Cream of Tartar	"	
8.00	1.58	9.58	49.07	Maize.....	Alum Phosphate.....	"	
9.46	0.18	9.64	19.26	"	Cream of Tartar....	"	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF NEW BRUNSWICK—

1908.							
Oct. 15	Bak'g Powder	29814	F. S. Purdy, St. John, N.B.	3 tins.	30	Nat. Drug & Chem. Co., St. John, N.B.	St. George's Brand.
" 16	" ..	29815	G. S. Dibble, St. John, N.B.	3 " ..	30	Dearborn & Co., St. John, N.B.	Dearborn Perfect Baking Powder.
" 16	" ..	29816	Robt. McConnell, St. John, N.B.	3 " ..	45	Royal Baking Powder Co., New York.	Royal Baking Powder.
" 16	" ..	29817	Robertson & Co., St. John, N.B.	3 " ..	30	E. W. Gillett & Co., Ltd., Toronto	Magic Baking Powder, (154).
" 20	" ..	29818	G. E. Barbour Co. Ltd., St. John, N.B.	3 " ..	30	Vendors.....	Acorn Brand.....
Nov. 6	" ..	29819	D. E. Richard, Moncton, N.B.	3 " ..	30	Hamilton Coffee & Spice Co. Ltd.	McLaren's Pure Baking Powder "Invincible."
" 11	" ..	29820	S. Holdengraber, Bathurst, N.B.	3 " ..	36	The Robt. Greig Co., Toronto.	Greig's "White Swan" Baking Powder.
" 12	" ..	29821	W. H. Marquis & Co., Campbellton, N.B.	3 " ..	36	Snowdon, Foebe & Co., Montreal and Quebec.	"Bee" Brand Baking Powder.
" 18	" ..	29822	C. H. Burt, Fredericton, N.B.	3 " ..	30	Dearborn & Co., St. John, N.B.	Dearborn Perfect Baking Powder.
" 19	" ..	29823	J. Rankin Brown, Woodstock, N.B.	3 " ..	45	Hamilton Coffee & Spice Co. Ltd., Hamilton, Ont.	McLaren's Pure Baking Powder "Invincible."

DISTRICT OF QUEBEC—

Oct. 9	Bak'g Powder	34418	Jos. Gaumond, St. Jean Port Joli.	3 Boxes	45	J. Morissette & Cie, (Laurier).....	Levis.
" 9	" ..	34419	A. Morin, St. Jean Port Joli.	3 " ..	38	Unknown.....	(Export), .....
" 9	" ..	34420	Francois Lavallé, St. Jean Port Joli.	3 3..	50	.....	Magic Baking Powder (199).
" 9	" ..	34421	Gilbert Caron, St. Jean Port Joli.	3 " ..	45	Langlois & Paradis, Quebec.	(Capital).....
" 10	" ..	34422	D. Cloutier, Trois Saumon.	3 Pkgs	36	Bedard & Frere, Quebec.	(Champlain)...
" 10	" ..	34424	Moise Rosa, Trois Saumon.	3 Boxes	45	Quebec Preserving Co., Quebec.	(Queen) .....
" 10	" ..	34426	Emilé Cloutier, Trois Saumon.	3 " ..	45	A. Carrier & fils, Levis.	(Gold Star).....
" 10	" ..	34428	Arthur Caron, Trois Saumon.	½ lb ..	06	J. B. Bedard & Frere, Quebec	.....
" 10	" ..	34431	Mad. Louis Morneau, St. Jean Port Joli.	½ " ..	05	Abel Turcotte, Quebec.	.....
" 12	" ..	34432	Exavier Lavallé, St. Aubert.	3 Boxes	35	S. H. Ewing & Sons, Montreal.	(Our Flag).....
" 12	" ..	34433	" " ..	3 " ..	36	Talon Bros., Toronto.	(Gold Cross).....



SESSIONAL PAPER No. 14  
BAKING POWDER.

RESULTS OF ANALYSIS.					Character of Powder.	Style of Package.	Remarks, and Opinion of the Chief Analyst.
Carbon Dioxide			Starch.				
Avail- able.	Resid- ual.	Total.	per cent.	Kind.			

J. C. FERGUSON, INSPECTOR.

p. c.	p. c.	p. c.	p. c.			
8.54	1.44	9.98	23.53	Maize.	Cream of Tartar	Can.
11.87	0.98	12.85	14.94	"		
11.68	0.52	12.20	29.75	"		
8.44	1.10	9.54	41.29	"	Alum Phosphate	
9.22	3.21	12.43	17.78	"	Cream of Tartar	
8.75	1.02	9.77	19.39	"		
13.46	0.81	14.27	26.48	"	Alum Phosphate	
9.62	1.94	11.56	46.96	"		
12.10	1.41	13.51	14.17	"	Cream of Tartar	
9.10	1.24	10.34	19.90	"		

E. BELAND, INSPECTOR.

6.41	Slight acid react'n	6.41	16.19	Rice	Alum.	Can.	Terra alba as fil- ler.
11.73	2.20	13.93	36.39	Maize.	Alum Phosphate		
11.79	1.68	13.47	49.74	"	"		
8.01	0.87	8.88	40.88	"	Alum.		
12.17	0.40	12.57	39.37	"	"	Paper Package	
9.95	1.92	11.87	37.91	"	Alum Phosphate	Can.	
12.24	Slight ly acid react'n	12.24	49.01	"	"		
12.59	0.67	13.26	45.39	"	Alum.		Bottle put up by In- specter.
6.06	10.86	16.92	27.58	"	Alum Phosphate		
10.53	0.87	11.40	48.63	"	"	Can.	
11.18	0.79	11.88	48.56	Rice and maize.	"		



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF ST. HYACINTHE—

1908.							
Oct.	8	Bak'g Powder	848 Mongeau freres, Montreal.	3 pkgs	30	W.D. McLaren, Ltd., Montreal.	(Cook's Friend)....
"	8	" ..	849 N. Vincent, Montreal	3 " ..	15	Ocean Mill, Montreal	Ocean .....
"	8	" ..	850 English Provision Co., Montreal.	3 " ..	75	Royal Baking Powder, New York.	Royal .....
"	9	" ..	851 B. Robinovitch, Montreal.	3 " ..	15	P. Adelstein, Montreal.	King. ....
"	12	" ..	852 C. F. Dufour, St. Agathe des Monts.	3 " ..	15	Raoul Provost, 1414 Boul, St. Laurent, Montreal.	O.K. ....
"	13	" ..	853 J. B. Gougou, St. Jerome.	3 " ..	15	Hudon & Orsali, Montreal. ~	(Gem).....
"	13	" ..	854 B. Beaulieu, St. Jerome	3 " ..	30	Not known.....	St. Jerome . ....
"	14	" ..	855 Adelard Héту, Joliette	3 " ..	30	Marcotte, Leblanc & Cie, Sole Agents, Montreal.	New York.....
"	16	" ..	856 L. P. Gates, Viauville	3 " ..	30	Nat. Drug Co. of Canada, Montreal.	(St. George's).....
"	29	" ..	858 H. R. Smith, Coteau Station.	3 " ..	30	E. W. Gillett & Co., Toronto.	Magic....

DISTRICT OF MONTREAL—

Oct.	5	Bak'g Powder	32746 Joseph Chartier, St. Johns, P.Q.	3 tins.	15	.....	Ocean Brand.....
"	5	" ..	32747 Eugene Rodier, St. Johns, P.Q.	3 " ..	45	.....	Kitchen Queen Brand.
"	5	" ..	32748 F. Giroux, St. Johns, P.Q.	3 " ..	30	.....	Excelsior Brand ..
"	8	" ..	32749 C. Labelle & Cie, Sorel, P.Q.	3 " ..	30	J.V.Boudrias, Montreal.	White Rose Brand
"	8	" ..	32750 F. N. Chagnon, Sorel, P.Q.	3 " ..	45	Not given .....	Made specially for vendor ; name not given 'Chagnon's Brand.'
"	9	" ..	32751 Bray Bros., Sherbrooke.	3 " ..	75	Nat. Drug & Chem. Co.	St. George's Brand
"	10	" ..	32752 McRae Bros., Richmond, P.Q.	3 " ..	30	.....	Magic Brand .....
"	10	" ..	32753 A.W.Beausoliel, Richmond, P.Q.	3 " ..	60	Ocean Mills, Montreal.	Richmond Special Brand. Put up specially for vendor.
"	19	" ..	32754 F. X. Giroux, Farnham, P.Q.	3 " ..	36	Mayell & Co., Toronto, Ont.	" Art " ..
"	20	" ..	32755 C. Vincent, Granby.	3 " ..	60	.....	Princess Brand, put up expressly for vendor. Name not given.



SESSIONAL PAPER No. 14  
BAKING POWDER.

RESULTS OF ANALYSIS.					Character of Powder.	Style of Package.	Remarks and Opinion of the Chief Analyst.
Carbon Dioxide.			Starch.				
Avail- able.	Resi- dual.	Total.	per cent.	Kind.			

J. C. ROULEAU, INSPECTOR.

p. c.	p. c.	p. c.	p. c.				
9.27	1.13	10.40	27.81	Rice.	Cream of tartar....	Paper package.	
10.63	1.90	12.53	33.34	Maize. ...	Alum phosphate.....	Can.	
12.67	0.25	12.92	28.92		Cream of tartar.....	"	
10.88	2.27	13.15	50.00		Alum phosphate.....	"	
8.55	0.73	9.28	15.86			Cardboard box.	Terra alba as filler
12.30	Neutral reaction	12.30	51.98		Alum.....	Can.	
13.28	0.42	13.70	18.82	Wheat ...	Alum phosphate.....	"	
11.60	0.82	12.42	23.14	Maize. ...		"	
8.74	2.10	10.84	26.84	" ....	Cream of tartar.....	"	
9.11	1.84	10.98	42.23		Alum phosphate ...	"	

J. J. COSTIGAN, INSPECTOR.

9.66	1.24	10.90	51.33	Maize. ...	Alum .....	Can.	
11.17	0.71	11.88	52.21	" ....	" .....	"	
9.70	0.76	10.46	34.18	Rice. ...	" .....	"	
9.65	0.55	10.20	54.34	Maize and wheat.	Alum phosphate .....	"	
10.81	2.04	12.85	33.03	Maize. ...	" .....	"	
10.14	0.85	10.99	24.75	" ....	Cream of tartar.....	"	
12.28	1.73	14.01	39.89	" ....	Alum phosphate .....	"	
10.70	2.60	13.30	49.02	" .....	" .....	"	
8.30	0.87	9.17	35.93	" ....	" .....	"	
13.28	1.02	14.30	51.00	" ....	Alum .....	"	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF OTTAWA—

1908.							
Sept. 30	Bak'g Powder	22739	J. C. Brown & Co., Vankleek Hill.	3 tins.	30	F. F. Dally Co., Hamilton.	English Cream Baking Powder.
Oct. 1	"	22740	Luloff & Co., Eganville.	3 " ..	25	E. W. Gillett & Co., Ltd., Toronto.	Magic Baking Powder, wholesome, pure.
" 3	"	22741	E. Wiltsie, Kemptville	3 " ..	30	F. J. Castle Co., Ottawa.	Labelled absolutely pure. (Royal).
" 6	"	22742	Geo. Illingorth, Almonte.	3 tumblers	30	C. H. Cochrane & Co., Ottawa.	Labelled "Buttermilk" Baking Powder. The highest standard of quality, strength and purity.
" 7	"	22743	P. A. Gagne, South Indian.	3 tins.	30	Snowdon, Forbes & Co., Montreal.	"Bee" Brand Baking Powder.
" 10	"	22744	Hamilton & Co., Finch	3 tumblers	30	Not known.....	"Quaker" Baking Powder.
" 12	"	22745	W. H. McCreery, Ottawa.	3 pkgs	24	Provost & Allard, Ottawa.	"Cook's Friend" Baking Powder. Prepared on correct chemical principles.
" 13	"	22746	A. Boivin, Ottawa...	1 tins.	30	E. W. Gillett & Co., Ltd., Toronto.	"Magic" (220) Baking Powder. Full weight, wholesome, pure.
" 13	"	22747	J. H. Primeau, Ottawa	3 " ..	30	The J. J. Fanning Co., Ottawa.	"Purity" Baking Powder.
" 13	"	22748	Forde Bros., Ottawa.	3 " ..	45	E. W. Gillett Co., Ltd., Toronto.	"Magic" (145, old label) Baking Powder. Full weight, wholesome, pure.

DISTRICT OF KINGSTON—

Nov. 3	Bak'g Powder	36046	H. Crozier, Cobourg	$\frac{3}{4}$ lb..	30	Pure Gold, Toronto.	(Pure Gold)....
" 3	"	36047	T. R. Harvey & Son, Cobourg.	1 $\frac{1}{2}$ " ..	75	Royal Baking Powder Co.	(Royal)....
" 3	"	36048	Guillett Bros., Cobourg.	1 $\frac{1}{2}$ " ..	75	Nat. Drug Co.....	(St. George's)....
" 3	"	36049	J. D. McIntosh, Cobourg.	$\frac{3}{4}$ " ..	45	Cleveland's Superior.	(Cleveland's Superior).
" 3	"	36050	Hovey & Son, Cobourg	1 $\frac{1}{2}$ " ..	75	Royal Baking Powder.	(Royal).. ..
" 3	"	36051	W. Burnet, Cobourg..	1 $\frac{1}{2}$ " ..	75	Cleveland's Superior.	(Cleveland's Superior).
" 3	"	36052	S. Fourt, Port Hope	1 $\frac{1}{2}$ " ..	75	W. T. Strong's, London.	(Strong's) .....
" 3	"	36053	J. Dunfee, Port Hope	$\frac{3}{4}$ " ..	45	Cleveland's Superior.	(Cleveland's Superior).
" 3	"	36054	T. H. Brown, Port Hope.	$\frac{3}{4}$ " ..	45	Royal Baking Powder.	(Royal). .....
" 3	"	36055	W. D. Stephens, Port Hope.	1 $\frac{1}{2}$ " ..	75	Pure Gold, Toronto.	(Pure Gold). ....



SESSIONAL PAPER No. 14

BAKING POWDER.

RESULTS OF ANALYSIS.					Character of Powder.	Style of Package.	Remarks, and Opinion of the Chief Analyst.
Carbon Dioxide.			Starch.				
Avail- able.	Resid- ual.	Total.	per cent.	Kind.			

J. A. RICKEY, INSPECTOR.

p. c.	p. c.	p. c.	p. c.				
12.12	0.94	13.06	52.12	Maize. ...	Cream of tartar.....	Tumbler.	
12.49	1.61	14.10	40.59	"	Alum phosphate. ...	Can.	
11.59	0.79	12.39	28.47	"	Cream of tartar ...		
15.84	Neutral reaction	16.84	28.63	"	"	Tumbler.	Contains alumina
1.95	Acid re- action.	1.95	32.87	"	Alum phosphate	Can.	
12.59	1.88	14.47	37.53	Rice.		Tumbler.	
9.61	1.33	10.94	27.21	"	Cream of tartar	Powder package.	
12.41	1.71	14.12	39.94	Maize. .	Alum phosphate	Can.	
10.12	1.31	11.42	35.30	"			
10.23	1.39	11.62	39.75	"			

JAS. HOGAN, INSPECTOR.

10.38	Neutral reaction	10.38	20.47	Maize. ...	Cream of tartar.....	Can.	
11.82	0.98	12.80	28.00	"	"		
9.37	1.62	10.99	24.44	"	"		
11.06	0.86	11.92	34.95	"	"		Contains free tar- taric acid.
12.21	0.85	13.06	28.37	"			
11.08	0.79	11.87	33.96	"			
11.30	1.57	12.87	10.68	"			
10.22	0.65	10.87	34.67	"	"		
11.49	0.82	12.31	27.28	"	"		
10.38	0.45	10.83	19.30	"	"		



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report
				Quantity.	Cents.		

DISTRICT OF TORONTO—

1908.							
Oct. 12	Bak'g Powder	36136	S. Scott, Durham ...	3 tins.	30	Gorman Eckert & Co., Ltd., London.	"Forest City" Baking powder pure and wholesome.
" 13	"	36137	Appel & Fisher, Walkerton.	3 " ..	75	Mayell & Co., Toronto	"Art" Baking Powder guaranteed for strength purity and wholesomeness.
" 13	"	36138	John Woods, Southampton.	3 " ..	45	W. H. Gillard & Co., Hamilton.	"Maple Leaf" Baking powder.
" 13	"	36139	Henry Ebert, Point Elgin.	3 pkg.	25	Canada Spice & Grocery Co., Ltd., London.	"Crest" Brand Baking powder.
" 14	"	36140	F. Carter & Sons, Paisley.	3 tins.	15	Lumsden Bros., Standard Mills, Hamilton.	"Jersey Cream" standard strength.
" 14	"	36141	J. N. Schefter, Mildmay.	3 " ..	30	E. W. Gillett Co. Ltd., Toronto.	"Magic" (195) Baking powder wholesome and pure.
" 15	"	36142	E. F. Graff & Co., Hanover.	3 " ..	60	Cleveland Baking Co., New York.	"Clevelands Superior" Baking powder, purity, strength, absolutely the best baking powder.
" 15	"	36143	Duncan McLean, Chesley.	3 " ..	30	Hamilton Coffee & Spice Co., Hamilton	"Ocean Wave" Baking powder.
" 16	"	36144	G. A. Graves, Wiar-ton.	3 " ..	30	Capstan Mfg. Co., Toronto.	"Tip Top" Baking powder, Vendor said it is a pure powder. Perfect satisfaction. Guaranteed.
" 16	"	36145	Horton Bros., Owen Sound.	3 " ..	30	Robt. Greig Co.....	"Hortons" Baking powder, mfg. expressly for Horton Bros

DISTRICT OF LONDON—

Oct. 7	Bak'g Powder	30501	Hay the Grocer, Kincardine.	3 tins.	50	Eby Blain & Co. ...	(Clevelands Superior.)
" 7	"	30507	N. Krotz, Listowell..	3 pkg.	15	F. F. Dally Co., Hamilton.	.....
" 7	"	30508	"	3 " ..	30	E. W. Gillett & Co., Toronto.	(Magic (180)).....
" 8	"	30512	Cardeno Bros. Seaforth	3 cans	25	Gorman Eckert & Co., London.	(Forest City).....
" 12	"	30516	William Lindon, Clinton.	3 " ..	25	Coffee & Spice Co., London.	(Harvest Home)..
" 15	"	30522	J. D. Smith & Co., St. Marys.	3 " ..	30	E. W. Gillett & Co., Toronto.	(Magic (229)) ...
" 15	"	30533	Mrs. Jane Davies, Stratford.	3 " ..	30	Stratford Wholesale Grocery Co, Stratford.	( " (238)).....
"	"	30534	H. T. Barker, Stratford	1 lb..	10	F. F. Dally Co., Hamilton.	(Kitchen Queen)..



SESSIONAL PAPER No. 14

BAKING POWDER.

RESULTS OF ANALYSIS.					Character of Powder.	Style of Package.	Remarks and Opinion of the Chief Analyst.
Carbon Dioxide.			Starch.				
Avail- able.	Resid- ual.	Total.	percent.	Kind.			

H. J. DAGER, INSPECTOR.

p. c.	p. c.	p. c.	p. c.				
10.38	1.11	11.49	41.80	Maize	Alum phosphate	Can	
9.43	1.34	10.77	32.28	"	"		
10.12	2.24	12.36	39.73	"	"	"	
12.00	1.35	13.35	42.51	"	"	Tumbler	
3.55	0.94	4.89	51.26	"	"	Can	
10.80	1.63	12.43	39.54	"	"		
10.14	0.67	10.81	35.33	"	Cream of tartar.	"	
11.29	1.71	13.00	41.14	"	Alum phosphate		
13.51	0.79	14.30	39.96	Wheat	"	"	
12.11	1.21	13.32	33.17	Maize	"		

T. KIDD, INSPECTOR.

10.15	0.62	10.77	23.94	Maize	Cream of tartar.	Can	
9.55	0.75	10.30	48.70	"	Alum	Tumbler, tin cover	
7.08	1.42	8.50	38.82	"	Alum phosphate	Can	
9.04	2.14	11.18	40.94	"	"	"	
17.04	neutral reaction	17.04	37.41	"	Alum	"	
12.31	1.63	13.94	37.95	"	Alum phosphate	"	
13.16	1.24	14.40	39.01	"	"	"	
11.62	0.68	12.30	52.00	"	Alum	Paper bag, (broken).	



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.
				Quantity.	Cents.		

DISTRICT OF LONDON—

1908.							
Oct. 16	Bak'g Powder.	30538	W. Stoneman, Mitchell	3 tins.	30	Canada Spice & Grocery Co., Ltd., London.	Crest Brand.. ....
" 15	"	30542	Michael Clinghammer, Grocer Merchant.	3 cups	30	"	Crest.....
" 15	"	30543	John McKinna, Dublin, Ont.	3 " ..	30	Gorman & Eckert, London.	Forest City... ..
" 1	"	30547	J. A. Steward, Exter.	3 " ..	30	Not known... ..	(Strongs).....
5	"	30980	O. C. Whitley, Goderich.	3 cans.	60	A. M. Smith & Co., London.	(Royal).....
5	"	30987	Thomas Pringle, Goderich.	3 tins.	45	Elliot Marr & Co., London.	(St. Georges)....
" 6	"	30992	G. M. Chamber & Co., Blyth.	3 " ..	30	Gorman Eckert & Co., London.	(Forest City).....
" 6	"	30994	William Bone, Wingham.	3 " ..	25	F. F. Dally Co., Hamilton.	(Kitchen Queen)..
" 6	"	30996	J. T. Lamnby, Wingham.	3 " ..	30	Not known .....	(Magic (233) .....

DISTRICT OF WINDSOR—

Oct. 7	Bak'g Powder.	34611	H. P. Rosser, London	1 lb ..	25	Gorman Eckert Co., London.	.....
" 8	"	34614	Rowntree & Fenger, London.	1 " ..	15	Canada Spice Co., London.	.....
" 8	"	34627	T. W. Vincent, London.	3 tins.	30	W. T. Strong, London.	(Strongs).....
" 8	"	34628	E. Noel, London.....	3 " ..	30	E. W. Gillett, Toronto.	(Magic (299)).....
" 8	"	34631	R. J. Wood, London.	3 " ..	30	Canada Spice & Grocery Co., London.	(Star).....
" 9	"	34633	Cullis & Fleming, London.	1 lb ..	20	International Food Co., Toronto.	.....
" 14	"	34638	Orendorf Bros., Ridgetown.	3 tins.	30	E. W. Gillett & Co., Toronto.	Original Package. (Magic (292)).
" 14	"	34639	John Grass, Ridgetown.	3 " ..	30	Lumsden Bros., Toronto.	Original Package. (Jersey Cream).
Nov. 10	"	34666	W. W. Taylor, St. Thomas.	1 lb ..	25	W. W. Taylor, St. Thomas.	Taken from bottle in Vendors store.
" 11	"	34677	C. V. Thomson, Tillsonburg.	1 " ..	25	C. V. Thomson, Tillsonburg.	Vendor guaranteed in pure.

DISTRICT OF MANITOBA—

Oct. 29	Bak'g Powder.	35740	Sutherland & Co., Winnipeg.	1 lb ..	75	.....	Put up expressly for Sutherland & Co., "Sutherland's Baking Powder".
" 29	"	35741	Wm. Stewart, Winnipeg.	½ " ..	45	.....	Put up expressly for Stewart. "Stewart's Baking Powder".



## SESSIONAL PAPER No. 14

## BAKING POWDER.

RESULTS OF ANALYSIS.					Character of Powder.	Style of Package.	Remarks, and Opinion of the Chief Analyst.
Carbon Dioxide.		Starch.					
Avail- able.	Resid- ual.	Total.	per cent.	Kind.			

T. KIDD, INSPECTOR—*Continued.*

p. c.	p. c.	p. c.	p. c.			
10.84	2.19	13.03	42.53	Maize...	Alum phosphate	Can.
10.56	2.14	12.70	41.24	" ..		Tumbler.
10.90	1.70	12.60	43.34			
12.10	1.51	13.61	10.57	" ..	Cream of tartar. . .	Can.
12.45	0.77	13.22	27.66	" ..		
9.61	0.49	10.10	26.90	" ..		
10.44	1.63	12.07	43.65	" ..	Alum phosphate	
11.02	0.83	11.85	52.58	" ...	Alum.	
11.53	2.01	13.54	39.77	" ..	Alum phosphate	

## JOHN TALBOT, INSPECTOR.

11.03	1.34	12.37	30.94	Maize...	Alum phosphate	Paper bag
11.78	2.42	14.20	37.87	" ..		
12.29	1.81	14.10	10.07		Cream of tartar....	Can.
13.34	1.70	15.04	37.50	" ..	Alum phosphate.	
16.34	0.35	16.69	34.25		Alum.....	
7.44	0.58	8.02	31.65	" ..	Alum phosphate.....	Paper bag.....
13.13	1.13	14.26	37.79	" ..		Can.....
7.06	0.71	7.77	53.61	" ..		"
12.45	Acid reaction	12.45	5.40	Wheat.	Cream of Tartar	Paper bag
13.23	0.45	13.68	41.25	Maize....	"	

## A. C. LARIVIERE, INSPECTOR.

11.90	1.74	13.64	41.29	Maize....	Alum phosphate ..	Can .....
11.85	1.52	13.37	44.73	" ....	" .....	" .....



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address or Manufacturer or Furnisher as given by the Vendor.	Inspector's Report
				Quantity.	Cents.		

DISTRICT OF MANITOBA—

1908.							
Oct. 29	Bak'g Powder.	35742	Conley & Yost, Win-nipeg.	½ lb ..	40	.....	Put up expressly for "Conley & Yost", grocers.
" 29	" ..	35743	Clements Arnason & Aalmanson, Winni-peg.	½ " ..	40	Gold Standard Mfg. Co., Winnipeg.	(Gold Standard)...
" 29	" ..	35744	C. Corneil, Winnipeg.	¼ " ..	30	E. W. Gillett Co., Ltd., Toronto.	"Magic Baking Powder" (246).
" 30	" ..	35745	A. Larocque, Win-nipeg.	1 lb..	60	The White Star Mfg. Co., Winnipeg.	"White Star" Bak-ing Powder.
" 30	" ..	35746	N. Tissman & Co., Winnipeg.	½ " ..	30	TheDysonCo., Mont-real & Winnipeg.	"Dyson's Red Cross" Baking Powder.
" 30	" ..	35747	A. Goldman, Prit-chard Ave.	½ " ..	30	E. W. Gillett & Co., Ltd., Toronto.	"Magic" Baking Powder.
" 30	" ..	35748	Moffat & Douglas, Selkirk Ave.	1 " ..	75	The Blue Ribbon Mfg. Co., Win-nipeg, Man.	"The Blue Ribbon" Baking Powder.
" 30	" ..	35749	W. B. Francis, Win-nipeg.	½ " ..	45	Western Mfg. Co., Winnipeg, Man.	"Quakermaid" Baking Powder.

DISTRICT OF CALGARY—

Nov. 13	Bak'g Powder	35446	R. Peters, Calgary....	3 tins.	45	Blue Ribbon Ltd., Winnipeg.	(Blue Ribbon).
" 13	" ..	35447	A. Brewer, Calgary..	3 " ..	45	E. W. Gillett Co., Ltd., Toronto.	(Magic (232).
" 14	" ..	35448	R. Bloon, Calgary....	3 " ..	45	Blue Ribbon Ltd., Winnipeg.	(Blue Ribbon).
" 26	" ..	35449	A. Macdonald, Co., Lethbridge.	3 " ..	35	Price's Baking Pow-der Co., Winnipeg	(Dr. Price's Cream)
" 26	" ..	35450	G. Bradbur & Co., Lethbridge.	3 " ..	60	International Food Co., Toronto.	(Reliance)....
Dec. 10	" ..	35451	Shera & Co., Ltd., Ft Saskatchewan.	3 " ..	60	E. W. Gillett Co., Ltd., Toronto.	(Magic (244).
" 10	" ..	35452	J. Simons, Ft. Saskat chewan.	3 " ..	60	Dr. Price's, Chicago	(Dr. Price's Cream)
" 10	" ..	25453	Green & Whitaker, Ft. Saskatchewan.	3 " ..	45	Dyson Co., Winnipeg	(Green & Whi-takers Pure).
" 10	" ..	35454	Wilkins & Jones, Ft. Saskatchewan.	3 " ..	75	Blue Ribbon Ltd., Winnipeg.	(Blue Ribbon)....
" 10	" ..	35455	Kimball & Son, Ft. Saskatchewan.	3 " ..	45	E. W. Gillett Co., Toronto.	(Magic old label (135).

DISTRICT OF VANCOUVER—

Oct. 8	Bak'g Powder	34360	Dominion Grocery, Vancouver.	3 tins.	75	E. W. Gillett & Co., Ltd., Toronto.	Magic Brand Pure, (261).
" 8	" ..	34361	Powell St. Grocery, Vancouver.	3 " ..	135	Nat. Drug & Chem. Co. of Canada.	St. George's Brand. A Pure Canadian food Production.
" 8	" ..	34362	E. C. Dixon, Van-couver.	3 " ..	75	Price Baking Powder Co., Chicago.	Composed of Pure grape, Cream of Tartar, Tartaric Acid, Bicarbon-ate of Soda and Corn Starch.



SESSIONAL PAPER No. 14  
BAKING POWDER.

RESULTS OF ANALYSIS.					Character of Powder.	Style of Package.	Remarks and Opinion of the Chief Analyst.
Carbon Dioxide.		Starch.					
Avail- able.	Resid- ual.	Total.	per cent.	Kind.			

A. C. LARIVIERE, INSPECTOR—*Concluded.*

p. c.	p. c.	p. c.	p. c.				
10·36	1·10	11·45	45·40	Maize	Alum Phosphate	Can.	
11·34	1·51	12·85	42·22	"	"	"	
12·05	1·76	13·81	42·10	"	"	"	
10·72	1·25	11·97	48·55	Wheat	"	"	
10·19	1·71	11·90	46·35	Maize	"	"	
11·78	1·87	13·65	40·04	"	"	"	
11·17	0·91	12·08	46·04	"	"	"	
10·68	2·52	13·20	48·76	"	"	"	

R. W. FLETCHER, INSPECTOR.

10·05	2·52	11·35	46·15	Maize	Alum Phosphate	Can.	
12·77	1·37	14·14	39·95	"	"	"	
10·40	1·29	11·60	46·90	"	"	"	
12·02	0·74	12·76	30·70	"	Cream of Tartar	"	Tartaric acid.
9·34	1·35	10·69	41·09	"	Alum Phosphate	"	
13·55	1·30	14·85	37·84	"	"	"	
12·23	0·63	12·86	31·04	"	Cream of Tartar	"	Tartaric acid
9·00	1·83	10·83	44·24	"	Alum Phosphate	"	
10·30	1·49	11·79	46·06	"	"	"	
11·26	1·20	12·46	37·06	"	"	"	

J. F. POWER, INSPECTOR.

13·07	1·61	14·68	36·29	Maize	Alum Phosphate	Can.	
10·19	1·37	11·56	24·92	"	Cream of Tartar	"	
11·50	0·86	12·45	30·60	"	"	"	Tartaric acid.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address or Manufacturer or Furnisher as given by the Vendor.	Inspector's Report
				Quantity.	Cents.		

DISTRICT OF VANCOUVER—

1908.							
Oct.	8	Bak'g Powder.	34363 H. T. Doo, Vancouver	3 tins.	75	Golden West Baking Powder Co., Vancouver.	"Go'den Wes Brand".
"	8	"	34364 A. Pomfret, Vancouver.	3 " "	60	White Star Mfg. Co., Winnipeg.	White Star Brand Best in the world.
"	8	"	34365 J. Donald, Vancouver	3 " "	120	Royal Baking Powder Co., New Jersey	(Royal) Absolutely Pure grocers are authorized to guarantee.
"	9	"	34366 J. S. Smith, Vancouver.	3 " "	100	J. W. Charlsworth, Vancouver.	This class of powder is recommended by the gov. analyst to without doubt reach the highest perfection attainable. (Perfect Cream of Tartar).
"	9	"	34367 J. Halkins, Vancouver	3 " "	60	Puritain Baking Powder and Extract Co., Vancouver.	"Golden Crown Brand" Pure and Sure.
"	9	"	34368 Poiner Grocery, Vancouver.	3 " "	120	Hamilton Coffee & Spice Co.	Guaranteed absolutely pure. Contains no alum or phosphates, ammonia, (McLaren's Invincible).
"	9	"	34369 Webster Bros., Vancouver.	3 " "	75	Not known.....	"White Lily Brand" specially put up for Webster Bros.

DISTRICT OF VICTORIA—

Nov.	18	Bak'g Powder	39242 Windsor Grocery Co., Victoria, B.C.	tins.	75	J. H. Todd & Sons, Victoria, B.C.	"Dr. Price's Cream" Baking Powder.
"	18	"	39243 The Saunders Grocery Co., Victoria, B.C	3 " "	30	Victoria Coffee & Spice Mills, Victoria, B.C.	"Feather Light" Baking Powder.
"	19	"	39244 Harrison & MacDon-ald, Victoria, B.C.	3 " "	75	A. Shilling & Co., San Francisco, Cal.	"Shilling's Best" Baking Powder.
"	19	"	39245 The West End Grocery Co., Victoria, B.C.	3 " "	75	R. P. Rithet & Co., Victoria, B.C.	"Magic" (261) ...
"	19	"	39246 Fred Carne, Victoria, B.C.	3 " "	75	S. Leiser & Co., Victoria, B.C.	"St. George". ...
"	20	"	39247 Jalland Bros., Victoria, B.C.	3 " "	75	E. W. Gillett Co., Toronto, Ont.	"Imperial". ....
"	20	"	39248 Acton Bros., Victoria, B.C.	3 " "	75	International Food Co., Toronto, Ont.	"Reliance".....
"	20	"	39249 The Victoria Rochdale Co-op. Assoc., Ltd., Victoria, B.C.	3 " "	105	Crescent Mfg. Co., Seattle, W. t.	"Crescent".....
"	20	"	39250 Wm. B. Hall, Victoria, B.C.	3 " "	120	Hamilton Coffee & Spice Mills, Hamilton, Ont.	"McLaren's Invincible".
"	23	"	39251 Dixie H. Ross, Victoria, B.C.	3 " "	75	Wilson Bros., Victoria, B.C.	"Royal".



## SESSIONAL PAPER No. 14

## BAKING POWDER.

RESULTS OF ANALYSIS.					Character of Powder.	Style of Package.	Remarks and Opinion of the Chief Analyst.
Carbon Dioxide.			Starch.				
Avail- able.	Resid- ual.	Total.	Percent.	Kind.			

J. F. POWER, INSPECTOR—*Concluded.*

p. c.	p. c.	p. c.	p. c.				
12.07	1.31	13.41	43.80	Maize....	Alum Phosphate.....	Can	.....
7.12	1.49	8.61	59.64	"	"		
12.44	1.00	13.44	28.83	"	Cream of Tartar		
9.15	neutral reaction	9.15	22.03	"	"		
3.30	0.86	4.16	47.20	"	Alum Phosphate		
10.28	0.55	10.83	19.56	"	Cream of Tartar		
10.66	1.80	11.74	41.04	"	Alum Phosphate		

## D. O'SULLIVAN, INSPECTOR.

11.80	1.04	12.84	28.28	Maize ..	Cream of Tartar .	Can	.....	Tartaric acid.
12.16	1.80	13.96	46.10	"	Alum Phosphate			
13.79	1.21	15.00	No Starch	.....	Cream of Tartar			
12.41	2.10	14.51	37.05	Maize....	Alum Phosphate			
9.73	1.49	11.22	24.25	"	Cream of Tartar			
7.68	0.80	7.88	18.44	"	"			
8.44	0.90	9.34	40.63	"	Alum Phosphate.....			
5.75	Slightly acid re- action.	5.75	36.50	"	"			
11.58	0.96	12.54	18.43	"	Cream of Tartar			
11.17	0.78	11.95	30.29	"	"			



9-10 EDWARD VII., A. 1910

## APPENDIX Y.

## BULLETIN No. 175—LIQUOR ARSENICALIS (FOWLER'S SOLUTION).

OTTAWA, February 26, 1909.

WM. HIMSWORTH, Esq.,  
Acting Deputy Minister of Inland Revenue.

SIR,—I have the honour to hand you a report upon 75 samples of *Liquor Arsenicalis*, commonly known as Fowler's Solution, collected throughout Canada in January of this year.

This important drug is defined as follows by the British Pharmacopœia :—

*Liquor Arsenicalis*.—*Arsenical Solution*.

Synonyms :—Liquor Potassæ Arsenitis ; Fowler's Solution.

	Imperial.	Metric.
Arsenious Anhydride in Powder.....	87½ grains	10 grammes.
Potassium Carbonate.....	87½ “	10 “
Compound Tincture of Lavender.....	5 fld. drams.	31·25 cubic centimetres
Distilled Water.....	a sufficient quantity.	

Heat the Arsenious Anhydride and the Potassium Carbonate with 10 fluid ounces (or five hundred cubic centimetres) of distilled water in a one-pint (or one litre) flask until a clear solution is obtained, cool, add the Compound Tincture of Lavender and sufficient distilled water to produce one pint (or one thousand cubic centimetres) of the solution.

*Characters and Tests*.—A reddish liquid, alkaline to test paper, and having the odour of lavender, 25 cubic centimetres, neutralized with *hydrochloric acid*, and diluted with *water*, should discharge the colour of 50·8 to 50·9 cubic centimetres of the *volumetric solution of Iodine*, the presence of a slight excess of *sodium bi-carbonate* being maintained throughout the operation.

Dose.—2 to 8 minims.

110 minims contain 1 grain of Arsenious Anhydride.

100 cubic centimetres contain 1 gramme.

It is identical with the Liquor Potassii Arsenitis of the United States Pharmacopœia.



## SESSIONAL PAPER No. 14

It contains one (1) per cent of Arsenious Acid ( $\text{As}_2\text{O}_3$ ) weight in volume, and it is quite apparent that the British Pharmacopœia requires a degree of accuracy within one five hundredth ( $\frac{1}{500}$ ) of this amount, or 0·002 per cent Arsenic. The method of assay prescribed by the Pharmacopœia is sufficiently delicate, if carried out with due precaution, to indicate this degree of accuracy. Making all necessary allowance, I conceive that no freshly prepared solution should vary more than 0·010 per cent of arsenic from the standard or normal fixed. Fifteen (15) samples now reported fall within, or closely approximate to this limit, and these are designated in the Table as "Accurate" or nearly accurate. Of the remaining samples, eighteen (18) are found to vary from the standard by ten times this amount, or more; (0·100 per cent Arsenic) and, of these, five (5) samples differ from the standard by 0·250 per cent Arsenic, while two (2) samples contain only half the amount of Arsenic required by the Pharmacopœia.

The following synopsis presents a classification ;—

*Liquor Arsenicalis.*

	Samples.
Within 0·010 of B. P. requirement.....	15
"    0·050    "    "    .....	21
Beyond 0·100    "    "    .....	18
Not classified.....	21
Total .....	75

While it would be correct, under Sec. 7 of the Adulteration Act (R.S. 1906, chap. 133), to declare most of the samples now reported, *adulterated*, I am of opinion that the object of the Act will be best attained by a publication of this report, and especially so, since this is the first occasion upon which the article named has been subjected to official inspection.

It is further to be remembered that a certain practicable limit of accuracy or degree of variation from an absolute standard, must be allowed for. This limit has not been fixed, and is only suggested or implied by the pharmacopœia itself, not explicitly stated therein.

I would respectfully suggest the wisdom of adopting 0·020 per cent of arsenic as a maximum limit of variability in *Liquor Arsenicalis*; and beg to recommend the publication of this report as Bulletin No. 175.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity	Cents.	

DISTRICT OF NOVA SCOTIA—

1909.						
Jan. 12	Liquor Arsenicalis (Fowler's Solution.)	33826	G. A. Burbidge, Halifax, N.S.	4 oz..	40	Nat. Drug & Chem. Co., Halifax, N.S.
" 12	"	33827	Brown Bros. & Co., Halifax, N.S.	4 " ..	10	" " ..
" 14	"	33828	Jas. D. Walsh, Halifax, N.S.	4 " ..	20	Vendor .....
" 20	"	33829	A. E. Smith, Truro, N.S.	4 " ..	25	Unknown .....
" 20	"	33830	E. J. Butcher, Dartmouth, N.S.	4 " ..	35	Nat. Drug & Chem. Co., Halifax, N.S.

DISTRICT OF PRINCE EDWARD ISLAND—

Jan. 7	Liquor Arsenicalis (Fowler's Solution.)	31443	McDonald & McKinnon, Charlottetown.	4 oz..	15	McDonald & McKinnon, Charlottetown.
" 7	"	31444	C. D. Rankin, Charlottetown.	4 " ..	20	Lyman, Knox & Co. Ltd., Montreal.
" 11	"	31445	Dr. John McNeill, Summerside.	4 " ..	15	Nat. Drug & Chem. Co., Halifax.
" 12	"	31446	Jardine & Bernard, Kensington.	4 " ..	15	Nat. Drug Co., Montreal....
" 14	"	31447	J. G. Jamieson, Charlottetown.	4 " ..	20	J. G. Jamieson, Charlottetown.

DISTRICT OF NEW BRUNSWICK—

Jan. 11	Liquor Arsenicalis (Fowler's Solution.)	29877	E. Clinton Brown, St. John, N.B.	4 oz..	40	E. Clinton Brown, St. John, N.B.
" 16	"	29878	Chas. A. Burchill, Fredericton, N.B.	4 " ..	40	Chas. A. Burchill, Fredericton, N.B.
" 18	"	29879	C. A. McKean, Woodstock, N.B.	4 " ..	25	Nat. Drug & Chem. Co. Ltd., St. John, N.B.
" 25	"	29880	B. J. Sharp, Sussex, N.B.	4 " ..	15	B. J. Sharp, Sussex, N.B....
" 26	"	29881	Fairweather Bros., Moncton, N.B.	4 " ..	20	Fairweather Bros., Moncton, N.B.

DISTRICT OF QUEBEC—

Jan. 11	Liquor Arsenicalis (Fowler's Solution.)	36803	A. Martineau, 734 St. Valier St., Quebec.	4 oz..	10	A. Martinea, Quebec. ....
" 11	"	36804	Jos. Masson, 808 St. Valier St., Quebec.	4 " ..	10	Jos. Masson, Quebec. ....
" 12	"	36805	G. P. Plamondon, 122 St. Joseph St., Quebec.	4 " ..	15	A. Leclerc, Quebec. ....
" 12	"	36806	F. Lachevrotière, 224 St. Jean St., Quebec.	4 " ..	30	Lyman Sons, Montreal. ...
" 12	"	36897	C. P. Delisle, 379½ St. Jean St., Quebec.	4 " ..	15	Brunette et Cie, Quebec....



SESSIONAL PAPER No. 14

## LIQUOR ARSENICALIS (FOWLER'S SOLUTION.)

Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
	Cubic Centi- metres, of Normal Solu- tion used for 25 cc. of Sample.	Equivalent Arsenic per Centage, (li- b. requires 1,000).	Below Stan- dard p. c. Arsenic.	Above Stan- dard p. c. Arsenic.	
R. J. WAUGH, INSPECTOR.					
.....	30.0	0.782	0.218		Too great deviation from standard.
.....	40.0	0.964	0.036		
.....	45.4	0.892	0.108		Too great deviation from standard.
.....	40.2	0.788	0.212		Too great deviation from standard.
.....	48.2	0.948	0.052		
THEO. MOORE, INSPECTOR.					
.....	48.3	0.950	0.050		
.....	49.5	0.974	0.026		
.....	45.7	0.898	0.102		Too great deviation from standard.
.....	50.5	0.994	0.006		Accurate.
.....	49.0	0.964	0.036		
J. C. FERGUSON, INSPECTOR.					
.....	47.9	0.942	0.058		
.....	50.3	0.990	0.010		Accurate.
.....	50.3	0.999	0.010		Accurate.
.....	34.3	0.670	0.330		Too great deviation from standard.
.....	49.5	0.974	0.026		
E. BELAND, INSPECTOR.					
.....	37.7	0.738	0.262		Too great deviation from standard.
.....	44.9	0.882	0.118		Too great deviation from standard.
.....	54.9	1.082		0.082	
.....	50.0	0.984	0.016		Nearly accurate.
.....	50.9	1.002		0.002	Accurate.



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF ST. HYACINTHE—						
1909.						
Jan. 11	Liquor Arsenicalis (Fowler's Solution.)	901	Pharmacie Provost, Sorel.....	2½ oz..	05	Lyman Sons & Co., Montreal.
" 13	" ..	902	Pharmacie Massicotte, Victoriaville.	4 " ..	10	Lyman Knox, Montreal....
" 14	" ..	903	E. C. Drolet, Coaticook.....	4 " ..	10	M. Baldwin .....
" 19	" ..	904	Dr. J. B. Comeau, Farnham..	4 " ..	40	Lyman Sons & Co., Montreal.
" 21	" ..	905	Pharmacie Ostigny. ....	4 " ..	15	Vendor .....
DISTRICT OF MONTREAL—						
Jan. 6	Liquor Arsenicalis (Fowler's Solution.)	32681	J. J. Weinfield, 453 St. Lawrence St., Montreal.	4 oz..	50	.....
" 7	" ..	32682	Dr. J. T. A. Gauthier, Valleyfield.	4 " ..	50	Lyman Sons & Co., Montreal.
" 8	" ..	32683	A. Goyette, 141 St. Catherine E., Montreal.	4 " ..	25	.....
" 13	" ..	32684	Dr. Henri Campeau, 1393 Notre Dame W., Montreal.	4 " ..	25	Not known. ....
" 14	" ..	32685	Dr. J. A. Clement, 14th Ave., Lachine.	4 " ..	20	Kent & Stevenson, Montreal.
DISTRICT OF OTTAWA—						
Jan. 5	Liquor Arsenicalis (Fowler's Solution.)	22796	W. A. McCrea, Hawkesbury..	4 oz..	20	Kerry Watson, Montreal....
" 12	" ..	22797	Geo. E. Moore, Carleton Place	4 " ..	35	Nat. Drug & Chem. Co., Ottawa.
" 18	" ..	22898	W. C. Hanes, Ottawa... ..	4 " ..	40	Not known. ....
" 21	" ..	22799	W. F. Gibson, Ottawa.....	4 " ..	35	Nat. Drug & Chem. Co., Ottawa.
" 21	" ..	22800	J. Skinner & Son, Ottawa ....	4 " ..	35	Vendor.....
DISTRICT OF KINGSTON—						
Jan. 8	Liquor Arsenicalis (Fowler's Solution.)	39426	W. W. Gibson, Kingston... .	4 oz..	40	W. W. Gibson, Kingston....
" 11	" ..	39427	D. Blecker, Belleville. ....	4 " ..	15	Nat. Drug Co ... ..
" 11	" ..	39428	A. L. Geen, Belleville.....	4 " ..	20	" .....
" 11	" ..	39429	W. J. B. Davison, Port Hope.	4 " ..	20	W. J. B. Davison, Port Hope.
" 12	" ..	39430	McDermid & Jury, Peterboro.	4 " ..	20	Lyman Bros., Toronto .....



SESSIONAL PAPER No. 14

## ARSENICALIS (FOWLERS SOLUTION.)

Inspector's Report.	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.	
	Cube Centi- metres Beer Normal Sol- me used for 25 cc. of Sample.	Equivalent Arsenic per Centage. (B P. require 1.000.)	Below Stan- dard p. c. Arsenic.		Above Stan- dard p. c. Arsenic.
J. C. ROULEAU, INSPECTOR.					
	47.6	0.936	0.064		
	51.5	1.014		0.014	Nearly accurate.
	50.5	0.994	0.006		Accurate.
	52.2	1.028		0.028	
	47.5	0.934	0.066		
J. J. COSTIGAN, INSPECTOR.					
	50.9	1.002		0.002	Accurate.
	51.6	1.026		0.016	Nearly accurate.
	48.7	0.958	0.042		
	28.9	0.562	0.438		Too great deviation from standard.
	42.5	0.834	0.166		Too great deviation from standard.
J. A. RICKEY, INSPECTOR.					
	47.7	0.938	0.062		
	48.7	0.958	0.042	.....	
	45.6	0.896	0.104	.....	Too great deviation from standard.
	48.7	0.958	0.042	.....	
	50.7	0.998	0.002	.....	Accurate.
JAS. HOGAN, INSPECTOR.					
	20.8	0.400	0.600		Too great deviation from standard.
	47.6	0.936	0.064		
	45.0	0.884	0.116		Too great deviation from standard.
	48.0	0.914	0.086		
	49.1	0.966	0.034		



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	
DISTRICT OF TORONTO—						
1909.						
Jan. 11	Liquor Arsenicalis (Fowler's Solution).	36187	A. Boyle, Cor. York and McGill Sts., Hamilton.	4 oz.	20	J. Winer & Co., Ltd., Hamilton.
" 12	"	36188	J. A. Zimmerman, Hamilton.	4 "	25	Vendor .....
" 13	"	36189	A. C. Thorbourne, Niagara Falls.	4 "	10	" .....
" 15	"	36190	W. Erskine, St. Catharines ...	4 "	20	Lyman Bros., Ltd., Toronto.
" 19	"	36191	The Burgess Powell Co., Ltd., Toronto.	4 "	25	" ..
DISTRICT OF LONDON—						
Jan. 7	Liquor Arsenicalis (Fowler's Solution).	30558	Jas. Wilson, Goderich.....	4 oz.	30	Not known.....
" 13	"	30575	W. A. McIntyre, St. Mary's...	4 "	40	Vendor ....
" 14	"	30583	R. J. Eason, Stratford .....	4 "	35	" .....
" 16	"	30584	Walter Beattie, Guelph .....	4 "	40	" .....
" 16	"	30590	A. B. Petrie, Guelph.....	4 "	40	" .....
DISTRICT OF WINDSOR—						
Jan. 7	Liquor Arsenicalis (Fowler's Solution).	34736	Clement Drug Co., Sarnia ....	4 oz.	40	Clement Drug Co., Sarnia..
" 7	"	34738	Geo. G. Ingersoll, Sarnia.....	4 "	40	Nat. Drug Co., London, O.
" 8	"	34744	Jackson & Co., Petrolia.....	4 "	25	" ..
" 9	"	34747	G. G. Stevenson, London, O	4 "	20	Vendors.....
" 12	"	34754	Anderson & Nelles, London, O.	4 "	20	Anderson & Nelles, London, O.
DISTRICT OF MANITOBA—						
Jan. 12	Liquor Arsenicalis (Fowler's Solution).	35826	P. F. Braund, Winnipeg.....	4 oz.	35	Not given .....
" 12	"	35827	Austin's Drug Store, Winnipeg	4 "	20	The Bole Drug Co., Winnipeg
" 12	"	35828	Cranston's Drug Store, Winnipeg.	4 "	25	Not given ..
" 13	"	35829	Kennedy's Pharmacy, Brandon.	4 "	25	Kennedy's Pharmacy, Brandon, Man.
" 13	"	35830	W. J. Halpin & Co., Brandon.	4 "	25	Not given .....



SESSIONAL PAPER No. 14

## ARSENICALIS (FOWLER'S SOLUTION).

Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
	Cubic Centi- metres, 100 Normal 10 cine used for 25 cc. of Sam- ple.	Equivalent Arsenic per centage, 100 P. requires 1,000).	Below Stan- dard p.c. Arsenic.	Above Stan- dard p.c. Arsenic.	
H. J. DAGER, INSPECTOR.					
	45.9	0.922	0.078		Too great deviation from standard.
	47.4	0.932	0.068		
	46.2	0.888	0.112		
	49.0	0.964	0.035		
	48.5	0.954	0.046		
T. KIDD, INSPECTOR.					
	54.2	1.068		0.068	Too great deviation from standard.
	42.6	0.836	0.164		
	54.1	1.066		0.066	
	54.4	1.072		0.072	
	39.6	0.776	0.224		
J. TALBOT, INSPECTOR.					
	46.9	0.992	0.008		Nearly accurate.
	50.2	0.988	0.012		
	46.4	0.912	0.088		
	49.4	0.972	0.028		
	52.2	1.028		0.028	
A. C. LARIVIERE, INSPECTOR.					
	50.6	0.996	0.004		Accurate.
	25.8	0.500	0.500		Too great deviation from standard.
	46.3	0.910	0.090		
	50.1	0.984	0.016		
	46.8	0.920	0.080		



Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.
				Quantity.	Cents.	

DISTRICT OF CALGARY—

1909.						
Jan. 15	Liquor Arsenicalis (Fowler's Solution).	35376	C. A. Wallace, Calgary...	4 oz ..	50	Nat. Drug and Chem. Co., Montreal.
" 15	" ..	35377	McCutcheon & McGill, Calgary	4 " ..	50	" " ..
" 15	" ..	35378	O. H. Bott, Calgary.....	4 " ..	25	O. H. Bott, Calgary.....
" 15	" ..	35379	Jas. Findlay Drug Co., Calgary	4 " ..	25	Lyman & Sons, Calgary.....
" 15	" ..	35380	Curry & Cope, Calgary.....	4 " ..	25	Curry & Cope, Calgary.....

DISTRICT OF VANCOUVER—

Jan. 29	Liquor Arsenicalis (Fowler's Solution).	37571	The Public Drug Co., Vancouver.	4 oz ..	60	Vendor . . . . .
" 29	" ..	37572	Woods Pharmacy, Vancouver.	4 " ..	50	" .. . . . . .
" 29	" ..	27573	McDonald & Burns, Vancouver	4 " ..	25	Nat. Drug Co., Vancouver ..
" 29	" ..	37574	W. A. Harrison, Vancouver ..	4 " ..	50	Vendor ... .. .
" 29	" ..	37575	McDowell, Atkins & Watson, Vancouver.	4 " ..	10	Not known.....

DISTRICT OF VICTORIA—

Jan. 26	Liquor Arsenicalis (Fowler's Solution).	39284	Dean & Hiscocks, Victoria ...	4 oz ..	25	Vendors .. . . . . .
" 26	" ..	39285	Hall & Co., Victoria.....	4 " ..	30	" .. . . . . .
" 26	" ..	39286	W. Jackson & Co., Victoria...	4 " ..	25	" .. . . . . .
" 27	" ..	39287	W. E. Terry, Victoria.....	4 " ..	40	" .. . . . . .
" 39	" ..	39288	D. E. Campbell, Victoria.....	4 " ..	35	" .. . . . . .



## SESSIONAL PAPER No. 14

## ARSENICALIS (FOWLER'S SOLUTION).

Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
	Cubic Centi- metres Deci- Normal for dissolved in 25 cc. of 70% ph.	Equivalent Arsenic per centage (B. P. 100 parts 1,000).	Below Stan- dard p. c. Arsenic.	Above Stan- dard p. c. Arsenic.	

## R. W. FLETCHER, INSPECTOR.

	48.8	0.960	0.040		
	42.6	0.880	0.164		Too great deviation from standard.
	46.4	0.912	0.088		
	50.3	0.980	0.010		Accurate.
	50.4	0.992	0.008		

## J. F. POWER, INSPECTOR.

	49.2	0.968	0.032		
	46.2	0.908	0.092		
	46.9	0.922	0.078		
	51.4	1.012		0.012	Nearly accurate.
	48.3	0.950	0.050		

## D. O'SULLIVAN, INSPECTOR.

	49.9	0.982	0.018		
	43.5	0.834	0.166		Too great deviation from standard.
	50.1	0.986	0.014		Nearly accurate.
	49.3	0.970	0.030		
	46.5	0.914	0.086		



## APPENDIX Z.

## BULLETIN No. 176—MUSTARD.

OTTAWA, March 1, 1909.

WM. HIMSWORTH, Esq.,  
Acting Deputy Minister of Inland Revenue.

SIR,—I beg to report upon 76 samples of Mustard, collected throughout the Dominion in January of this year.

Mustard has been made the subject of examination in this laboratory on two former occasions, viz. ;—in 1890 (95 samples, see Bulletin 19), and in 1897 (66 samples, see Bulletin 50)

In Bulletin No. 19, the late Chief Analyst directs attention to the need of definite standards for mustard ; and suggests the adoption of a minimum limit of 30 per cent fixed oil for genuine mustard, and of 22 per cent for compound mustard.

The importance of legalizing a definition of mustard is undeniable, and until this is done, I find it quite impossible to declare adulteration in any of the extremely variable samples, sold under this name.

That such definition should depend mainly upon a percentage of fixed oil in the article, is not so clear. The fixed oil of mustard is present in mustard seeds (both black and white) to the extent of about 25 per cent : and the sifted farina of mustard contains this oil to about 35 per cent or slightly higher. (Piesse and Stansell ; The Analyst, 1880, p. 161).

But the value of mustard as a condiment does not depend upon the content of fixed oil. White mustard, which *per se*, has little condimental value, contains as much fixed oil as black mustard. Nor did the late Chief Analyst suggest the determination of fixed oil in mustard as being itself directly an element of value in the condiment, but rather as a means of ascertaining the amount of foreign material present in admixtures. This added material is usually starch or turmeric, and is practically fat free.

Since the fixed oil in mustard seed is fairly constant, the suggestion to make the percentage of fixed oil in mustard flour a basis for calculating the amount of foreign matter added is a reasonable one, provided that mustard seed is always ground in its natural state, i.e., without removal of any portion of the fixed oil. This, however, is not the case. The oil greatly interferes with the pulverizing of the seed, and over 75 per cent of it may be removed by pressure before grinding, so that estimation of the fixed oil in the finished product, affords no trustworthy basis for calculation as to foreign matter added. The fixed oil of mustard is a bland oil, applicable to various dietetic purposes, but quite devoid of such condimental properties as are valued in mustard.

The characteristic pungency of mustard is due to a volatile oil, only traces of which exist in the dry mustard, but which is developed, by the action of a ferment (myrosin) upon potassium myronate, in the presence of water. It is only upon mixing mustard with water that the pungent flavour is developed. Potassium myronate is present to the extent of about 1.5 per cent in black mustard seed, and is practically absent from white mustard. This latter contains only traces of volatile oil as such, while about half of one per cent is present in the black seed. It follows, from what has been said, that the better way of valuing mustard, would be by direct estimation of its volatile oil, after a treatment converting potassium myronate into this last.

It is found in practice, that although the white mustard seed contains no potassium myronate, its presence in admixture with the black seed assists in the generation of volatile oil from the latter ; and for this reason the two varieties are ground together. This is due to the fact that a ferment (myrosin) whose presence determines the con-



## SESSIONAL PAPER No. 14

version of potassium myronate into volatile oil of mustard, is more largely present in white than in black mustard, although the glucoside (*siniigrin*) upon which it acts, to develop the volatile oil is practically absent from white mustard. A glucoside (*Sinalbin*) exists in white mustard, which, when acted upon by water in presence of myrosin, yields an oil (*Sinalbin* mustard oil) which has the pungent, burning taste, and vesicating properties of the volatile oil of black mustard; but this oil is only slightly volatilized with steam, and its presence does not materially interfere with the estimation of volatile mustard oil. (*Allylisothiocyanate*).

From the work of Plesse and Stansell already quoted, F. Sutton (*Allen's Commercial Organic Analysis*; vol. III, part 3, p. 116); Senlight (*Zeits. Anal. Chem.* XXX. 661), and others, I am of opinion that the determination of volatile oil of mustard is practicable as a means of assaying commercial mustard; and I hope to investigate this matter more fully at an early date.

The following definition of mustard has been adopted by the United States Department of Agriculture (Circular No. 13, Dec. 20, 1904, p. 11):—

**"Ground mustard is a powder made from mustard seed, with or without the removal of the hulls and a portion of the fixed oil, and contains not more than two and five-tenths (2.5) percent of starch and not more than eight (8) percent of total ash."**

This definition leaves much to be desired, as it makes no reference to the component (volatile oil) upon which the real value of ground mustard depends, whether considered as a condiment, or as a vesicant.

It will be seen on looking through the tables in this report, that very few samples of mustard found on the Canadian market are free from starch and turmeric. Nor is it to be understood that the addition of starch and turmeric is made for purposes of fraud. Certain brands of this condiment, which have been on the world's markets for generations, and have received recognition and honours at International Exhibitions, are avowedly mixtures of mustard farina with other materials. The public have approved of these compounds; and other manufacturers have, on this account, been led to imitate them. It may be, as alleged by some makers, that the presence of starchy matters is necessary, to give better keeping quality to the article, which without starch, tends to become lumpy and sticky; that turmeric is desirable to give a pleasing colour to mustard, especially when mixed with water for the table; that the removal of a large percentage of the fixed oil is necessary to permit of satisfactory grinding and sifting. On the other hand, it is claimed that the seeds of white mustard although not possessed of the pungent properties essential to mustard as a condiment, contain the finer and distinctive flavours of mustard, and are as necessary to the production of a desirable condiment as the black mustard. And further that even the same variety of seeds exhibits so great differences in crops of different years that it is impossible to make satisfactory blends except under the guidance of an expert, who is guided rather by the cultivated senses of taste, and smell, than by varietal differences in the seeds themselves. However this may be, it is certain that mustard should be sold for what it is; and that the presence of added matters should be announced on the label.

The question of the amount of added matters which may be permitted is serious, from the point of view of the use of mustard as a domestic remedy, in blisters, poultices, emetics, &c. The mustard of the pharmacopœia permits of no admixture. Mustard as a condiment is another matter, and the public should learn to recognize the distinction between the two. Condimental mustard may be regarded as a substitute, in emergency, for the pharmacopœial mustard, but by no means to be confused with this last.

But even as a condiment, there is a degree of dilution which amounts to fraud. The fixing of limits defining mustard for condimental purposes is under consideration. The problem is not a simple one, and I am not yet in a position to submit a formal solution. I would respectfully recommend the publication of this report as Bulletin No. 176.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,

*Chief Analyst.*



BULLETIN No. 176—MUSTARD.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.			Remarks, and Opinion of the Chief Analyst.
				Quantity.	Cents.			Total Ash.	Reducing matters by acid converted as starch.	Microscopical Examination.	

DISTRICT OF NOVA SCOTIA R. J. WAUGH, INSPECTOR.

1909.

Jan. 12	Mustard.	33816	Jas. Hogan, Halifax, N.S.	4 lb.	06	Coleman, London, Eng.	.....	3.50	25.65	Mustard & wheat starch	
" 12	"	33817	Jas. Scott & Co., Halifax, N.S.	4 "	15	J. J. Coleman, London, Eng.	.....	4.16	16.65	" "	
" 14	"	33818	J. L. Archibald & Son, Halifax, N.S.	4 "	10	" "	" Durham Brand "	3.34	20.13	Mustard, wheat starch & turneric.	
" 14	"	33819	W. Taylor, Halifax, N.S.	4 "	10	Dunn, London, Canada	.....	5.10	6.84	" "	
" 15	"	33820	E. B. Tracey, Halifax, N.N.	4 "	08	C. H. Cochrane & Co., Ottawa, Ont.	" Imperial Brand "	3.96	33.07	" "	

DISTRICT OF PRINCE EDWARD ISLAND—THEO. MOORE, INSPECTOR.

Jan. 8	Mustard.	31433	Connolly Bros., Charlottetown.	4 lb.	09	Auld Bros., Charlottetown.	.....	1.96	5.31	Mustard, wheat starch & turneric.	
" 11	"	31434	Bruce & McKay, Summerside.	4 "	10	Pure Gold Mfg. Co., Toronto.	.....	2.84	55.12	" "	
" 11	"	31435	D. McKenzie, Kensington.	4 "	10	Raymart & Co., London, Eng.	Mfg. from select seed, warranted superior quality.	1.40	46.12	" "	
" 12	"	31436	R. Tuplin & Co., Kensington.	4 "	08	W. H. Schwartz & Son, Halifax.	Taken from packaged labelled "Imperial Mustard Compound."	2.10	.....	" "	Sold as admixture.
" 12	"	31437	Geo. W. McLeod, Hunter River.	4 "	10	N. Rattenbury Co. Ltd., Charlottetown.	.....	3.04	.....	" "	"



DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

Jan. 8	Mustard.	29867	Harry G. McLeath, St. John, N. B.	10	J. J. Coleman, London.	3 74	17 10	Mustard & wheat starch	
" 16	"	29868	Hart Morrison & Co., Fredericton, N. B.	12	"	2 00		Mustard, wheat starch sold as admixture.	
" 19	"	29869	C. L. O'Brien, Perth, Victoria, N. B.	10	"	3 38		"	"
" 20	"	29870	Bentham, Powell & Archer, Victoria, N. B.	15	D. Brown & Co., St. John, N. B.	5 90		"	Sold as compound.
" 27	"	29871	James Macdonald, New Brunswick, N. B.	10	J. J. Coleman, London.	3 64		Mustard & wheat starch	Sold as admixture.

DISTRICT OF QUEBEC—E. BELLAND, INSPECTOR.

Jan. 14	Mustard.	36838	Arthur Ringer, 441 St. Joseph St., Quebec.	15	E. Fournier, Quebec.	6 45		Mustard & tartaric.	
" 14	"	36839	"	25	"	3 34	2 80	Mustard & wheat starch.	
" 14	"	36840	Arthur Ringer, 714 St. Joseph St., Quebec.	25	"	3 90	7 70	Mustard & wheat starch.	
" 14	"	36841	"	40	E. Fournier, Quebec.	5 34		Mustard & tartaric.	
" 15	"	36842	Harold & Robert, 728 St. Valerius St., Quebec.	15	E. Fournier, Quebec.	3 00	28 50	Mustard, wheat starch & tartaric.	

DISTRICT OF ST. HYACINTHE—J. C. ROQUELLEAU, INSPECTOR.

Jan. 11	Mustard.	923	M. LeBlond, 1000 St. Jacques.	15	E. LeBlond & Co., St. Hyacinthe.	2 04	34 06	Mustard, wheat starch & tartaric.	
" 11	"	924	Marshall & Co., 800 St. Jacques.	6	"	3 74		Mustard, wheat starch, sold as admixture.	
" 11	"	925	Arthur Prods., 800 St. Jacques.	68	J. D. Macdonald & Co., St. Hyacinthe.	1 84	54 60	Mustard, wheat starch & tartaric.	
" 12	"	926	D. Parent, 800 St. Jacques.	10	"	2 00	34 06	"	"
" 12	"	927	Adelard Robert, 800 St. Jacques.	10	Canada Direct Trade Co., St. Hyacinthe.	3 60	53 50	"	"



BULLETIN No. 176—MUSTARD.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.			Remarks, and Opinion of the Chief Analyst.	
				Quantity.	Cents.			Total Ash.	Reducing matters by acid conversion calculated as starch.	Microscopical Examination.		
DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.												
1909. Jan.	Mustard.	32661	H. G. Smith, Montreal	1 lb.	10	Rose & Laflamme, Montreal.	.....	3.50	20.70	Mustard & wheat starch	Sold as admixture.	
"	"	32662	Kyle & Stevenson, Montreal.	1 "	10	Not known.....	.....	2.40	52.38	Mustard, wheat starch & turmeric.		
"	"	32663	Richer & Page, Valleyfield, P.Q.	1 "	10	.....	The admixture is guaranteed free from any injurious ingredients.	1.40	.....	" "		
"	"	32664	Geo. Dixon, Huntingdon, P.Q.	1 "	05	Not known.....	Durham Mustard..	2.26	21.05	" "		
"	"	32665	Pierre Poirier, St. Gabriel de Brandon, P.Q.	1 "	08	"	.....	2.84	38.92	" "		
DISTRICT OF OTTAWA—J. A. RICKEY, INSPECTOR.												
Jan.	Mustard.	22786	Estate Late Chas. Leque, River Desert, P.Q.	1 lb.	07	Not known.....	Sold as mustard.	2.00	45.72	Mustard, wheat starch & turmeric.	Sold as admixture.	
"	"	22787	The Sanders Soule & Casselman Co., Cherterville, O.	1 "	08	Hudon Herbert & Cie., Montreal.	"	1.45	48.15	" "		
"	"	22788	Brown Bros., Richmond	1 tin.	14	Not known.....	Sample labelled Keens Mustard. Also labelled admixture.	3.80	.....	Mustard & wheat starch		
"	"	22789	A. Parkinson, Kemptville.	1 lb.	10	Dalley & Co., Hamilton	Sold as mustard.	2.54	55.35	Mustard, wheat starch & turmeric.		
"	"	22790	Kavanagh Bros., Ottawa.	1 "	10	Not known.....	"	2.94	24.70	" "		



DISTRICT OF KINGSTON—JAS. HOGAN, INSPECTOR.

Jan.	11	Mustard.	39416 R. Elvins, Belleville, Ont.	25	Koons, London.	3 60	10 45	Mustard & wheat starch
"	11	"	39417 H. E. Fairfield, Belleville, Ont.	15	J. M. Lowes, Toronto	2 14	34 42	Mustard, wheat starch & turmeric.
"	11	"	39418 J. Curtis, Port Hope	30	Koons, London	4 00	3 87	Mustard & wheat starch
"	11	"	39419 F. H. Brown, Port Hope	30	"	4 60	6 26	"
"	12	"	39420 A. J. Roulty, Peterborough	20	Dann, Hamilton	2 70	54 58	Mustard, wheat starch & turmeric.

DISTRICT OF TORONTO—H. J. DAVIER, INSPECTOR.

Jan.	5	Mustard	36166 M. Sweeney, Sherborne St., Toronto	5	Dalton Bros., Toronto	1 84	29 70	Mustard, wheat starch and turmeric.
"	5	"	36167 P. Kelly, Sackville St., Toronto.	7	"	2 18	48 37	"
"	12	"	36168 J. A. Williamson, Hamilton.	10	Not known.	2 87	51 97	"
"	12	"	36169 James Mann, Hamilton.	7	The F. P. Dalley Co. Ltd., Hamilton	6 00	None	Mustard and turmeric.
"	15	"	36170 R. H. Watson, St. Catharines.	7	Gordon, Dunn & Co., Hamilton.	3 00	"	Mustard, wheat starch and turmeric.
"	26	"	36176 C. Cleland, Toronto	5	Not known.	1 50	59 17	"

DISTRICT OF LONDON—T. KIDDO, INSPECTOR.

Jan.	6	Mustard.	30553 Chas. Naum, Guelph.	35	J. Farrow Co., Peterborough, England.	4 14	"	Mustard and wheat starch.
"	6	"	30555 J. J. McEwen, Guelph, rich.	30	Not known.	3 84	"	"
"	8	"	30560 Richard Smith, Southforth.	30	Graham Dobb & Co., London, Ont.	1 54	"	Mustard, wheat starch and turmeric.
"	11	"	30565 B. A. McEwen, Clinton.	10	"	1 40	56 70	"
"	12	"	30569 William Stoddaman, Mitchell.	50	Canada Grocery & Spices Co., London, Ont.	2 82	"	Sold as admixture.



BULLETIN No. 176—MUSTARD

Date of Collection	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Total Ash.	Reducing matters by acid conversion calculated as starch.	Microscopical Examination.	

DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR.

1909.

Jan. 7	Mustard....	34729	Jas. Fraser, Sarnia...	4 lb..	15	Keens, London, Ont....	.....	3.64	7.26	Mustard and wheat starch.	Sold as compound.
" 7	" .....	34732	W. C. Palmer, Sarnia.	4 " ..	10	Not known.....	.....	3.14	8.84	Mustard, wheat starch and turmeric.	
" 7	" .....	34734	R. Wanless & Co., Sarnia.	4 " ..	08	Todhunter & Mitchell, Toronto.	Not sold as pure mustard,	3.40	.....	" "	
" 8	" .....	34740	C. R. Polly, Petrolia...	4 " ..	08	Canada Spice & Grocery Co., London, Ont.	.....	2.82	54.45	" "	
" 8	" .....	34741	Fred. Seabrook, Petrolia.	4 " ..	08	" "	"Crest" Brand.	2.90	37.68	" "	

DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

Jan. 14	Mustard....	35785	J. C. Callander & Co., Hartney.	4 lb..	15	Keens Mustard, London, Eng.	.....	4.12	13.95	Mustard and wheat starch.	
" 14	" .....	35786	D. Sutherland, Hartney.	4 " ..	25	The Gold Standard Mfg. Co., Winnipeg, M.	.....	4.25	None....	Mustard.....	
" 19	" .....	35787	Findlay Speer Co., Shoal Lake.	4 " ..	10	Campbell Bros, Winnipeg.	.....	3.50	37.80	Mustard, wheat starch and turmeric.	
" 20	" .....	35788	Geo. Manson & Sons, Strathclair.	4 " ..	15	Keens Mustard, London, Eng.	.....	3.84	10.44	Mustard and wheat starch.	
" 21	" .....	35789	C. McLearn, Winnipeg.	4 " ..	10	Genuine London Mustard.	.....	3.66	45.00	Mustard, maize starch and turmeric.	



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## DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

Jan. 18	Mustard.	35336	Copas & Emerson, Calgary.	Cal 1 lb	10	L. T. Mewburn & Co. Ltd., Calgary.	2 32	40 72	Mustard, wheat starch and turmeric.
"	"	35367	C. J. Winn, Calgary.	1 " "	10	Campbell, Wilson & Horne, Calgary.	2 34	52 42	" " "
"	"	35368	Hudsons Bay Co., Calgary.	Cal 1 " "	15	Keen, London, Eng.	3 74	18 83	Mustard and wheat starch.
"	"	35369	Calgary Milling Co., Calgary.	Cal 1 " "	10	Talhunter, Mitchell & Co., Toronto.	3 10	56 92	Mustard, wheat starch and turmeric.
"	"	35370	J. A. Nolan, Calgary.	Cal 1 " "	15	Canada Spice & Grocery Co., London, Ont.	2 60	53 95	" " "

## DISTRICT OF VANCOUVER J. F. POWER, INSPECTOR.

Jan. 16	Mustard.	37551	A. Frederickson, Mount View, Vancouver.	Mo 1 lb	10	Kelly Douglas & Co., Vancouver.	2 78	40 5	Mustard, wheat starch and turmeric.
"	"	37552	W. Clark, Vancouver.	1 Tin.	15	" "	4 26		Mustard and wheat sold as mixture.
"	"	37553	Direct Supply Co., Vancouver.	1 lb	10	Climax Mfg. Co., Vancouver.	3 86	42 75	Mustard, wheat starch and turmeric.
"	"	37554	H. C. McQuarrie, Vancouver.	1 Tin.	15	Coleman.	3 90	18 45	Mustard and wheat sold as mixture.
"	"	37555	J. McArthur, Vancouver.	1 " "	15	J. J. Coleman	4 20	3 97	Mustard and a little sold as mixture.

## DISTRICT OF VICTORIA D. O'SULLIVAN, INSPECTOR.

Jan. 20	Mustard.	39274	Windsor Grocery Co. Ltd., Victoria.	Cal 1 Tin	20	Fallow & Co., Peterborough, Eng.	4 10	19 90	Mustard and wheat starch.
"	"	39275	Copas & Young, Victoria.	1 " "	15	J. J. Coleman, London, Eng.	4 00	15 97	Mustard, wheat starch and turmeric.
"	"	39276	Wm. B. Hall, Victoria.	3 Pigs	30	A. Shilling & Co., San Francisco, Cal.	5 90	None	Mustard
"	"	39277	W. A. Jameson Coffee Co., Victoria.	1 lb	10	F. R. Dalley, Hamilton, Ont.	6 00	None	Mustard and turmeric.
"	"	39278	Wm. B. Hall, Victoria.	1 " "	30	Pioneer Coffee & Spice Mills, Victoria, B.C.	3 90	22 95	Mustard, wheat starch and turmeric.







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## APPENDIX AA.

## BULLETIN No. 177—TABLE SYRUPS.

OTTAWA, March 18, 1909.

WM. HIMS WORTH, Esq.,  
Acting Deputy Minister of Inland Revenue.

SIR,—I have the honour to report upon 75 samples of syrup, purchased throughout Canada in January of this year. The collection was intended to be exclusive of maple syrup, or of imitations of maple syrup (which have received consideration in Bulletins 141 and 155), but a few samples of this class of goods have been inadvertently purchased by our inspectors.

Table II contains classified statements of the results of analysis, which will be found, together with other information, in Table I.

Thirty-nine (39) of the 75 samples herein reported, consist essentially of Corn-Starch Glucose; but varying amounts, usually from 5 to 10 per cent of cane sugar are present in these. Twenty-three (23) samples are essentially cane sugar syrups although several of them contain notable amounts of glucose. The remaining thirteen (13) samples are mixtures, containing very considerable proportions of cane sugar usually about 30 per cent.

Owing to the non-existence of legal standards for syrup, it is impossible to pronounce definitely upon individual samples.

This report will serve the purpose of showing what table-syrup (omitting maple syrup) is, as now sold in Canada.

The following explanations, bearing upon the question of defining syrup, are of interest here.

When the sugar-containing sap or juice of a plant (maple tree, sugar cane, &c.,) is evaporated to a consistence such that not more than about 30 per cent of water remains, the result is a syrup. This assumes that no sugar has been removed in the process. The necessary heating of the sap or juice has the effect of causing some change in the nature of the contained sugar. Cane sugar is more or less changed to *invert sugar* (a mixture of dextrose and levulose).

If the sap is, at some stage of the process of evaporation, allowed to cool, so that the sugar crystallizes, and the sugar crystals are removed, the residual liquid will still be sweet, in consequence of having sugar in solution, but the dissolved sugar will more largely consist of invert sugar. Such a residual solution, from which sugar crystals have been removed, is properly called molasses.

A syrup may be made by the direct solution of sugar in water, to proper consistency. Such a syrup (sugar syrup) is defined by the pharmacopœias. The British pharmacopœia prescribes the solution of 10 parts of sugar by weight, to make 15 parts of the syrup. This has a density of 1.320. It is evident that such a syrup may contain little or no invert sugar; and must be too costly to compete with ordinary syrup in commerce.

When starch is heated under pressure, in contact with an acid and water, a change occurs by which the starch is largely converted into dextrose (one of the components of invert sugar). More or less of the starch is, however, converted into dextrin (British gum) quite a different thing from sugar. The resultant of this process, properly freed from any excess of acid, and otherwise purified and concentrated is by courtesy, known



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as a syrup (glucose syrup), but is not a syrup as above defined. Since, however, it has a sweetish taste, though by no means so sweet as true syrup, it is put on the market as a syrup. Increased sweetness is given to it by addition of more or less true syrup, and, perhaps, in some cases, by addition of saccharin.

Mixed syrups, consisting of glucose syrup and true syrup, may be perfectly wholesome foods ; as, indeed may be true of glucose syrup *per se*. But, in order to be perfectly honest articles of commerce, the fact of their composition should be made known to the purchaser.

The differences in taste and flavour between a true syrup and a glucose syrup, or a syrup made by mixing glucose with a true syrup, are quite well marked ; and it may be urged that, so long as the purchaser finds no fault on the ground of sweetness, flavour, and other qualities that appeal to the sense of taste, there is really no ground of complaint, even should he be supplied indiscriminately with one or other of these articles. The nutritive properties (energy producing power) possessed by them may, so far as we know, be considered identical.

I believe, however, that there are many consumers who distinguish between cane syrup and glucose syrup ; and in the interest of such consumers, as well as for the purpose of making a clear statement of fact, I am of opinion, that table syrups should be sold under distinctive names, as for example, maple syrup, cane syrup, glucose syrup, mixed syrup, &c.

I beg to recommend the publication of this report as Bulletin No. 177.

I have the honour to be, sir,

Your obedient servant.

A. MCGILL,

*Chief Analyst.*



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TABLE II.  
EDWARDSBURG CO., CARDINAL, ONT.

Number.	POLARIZATION.		Cane Sugar.	Total Solids.	Water.
	Direct.	Invert.			
33822 .....	+154.0	+146.9	5.30	78.32	21.68
33823 .....	+158.0	+151.8	5.40	79.12	20.88
29873 .....	+141.0	+132.0	6.71	80.16	19.44
29874 .....	+168.0	+160.0	6.97	80.12	19.88
36821 .....	+154.0	+147.4	4.92	77.80	22.20
929 .....	+168.0	+160.6	6.32	78.24	21.76
931 .....	+141.0	+135.3	4.65	79.64	20.36
32669 .....	+150.0	+140.6	7.01	78.20	21.80
22791 .....	+145.0	+145.0		79.20	20.80
22794 .....	+144.0	+131.0	9.70	81.48	18.52
39421 .....	+161.0	+152.9	6.64	79.64	20.36
39423 .....	+134.0	+125.4	6.41	79.64	20.36
39425 .....	+161.0	+150.7	7.68	79.16	20.84
36185 .....	+172.0	+159.8	8.25	80.12	19.88
34733 .....	+156.0	+146.9	6.78	77.37	22.62
35792 .....	16.0	+156.2	9.55	78.32	21.68
35793 .....	+128.0	+116.6	8.60	81.96	18.04
35794 .....	+143.0	+138.6	4.03	79.12	20.88
35795 .....	+140.0	+136.4	2.69	79.12	20.88
33871 .....	+134.0	+125.4	6.41	79.20	20.80
37556 .....	+148.0	+144.7	0.22	77.37	22.63
39281 .....	+150.8	+147.5	2.47	77.37	22.63
Means .....	+150.9	+143.3	5.72	79.15	20.85

ST. LAWRENCE STARCH CO.

36822 .....	+152.0	+141.9	7.35	76.88	23.12
32670 .....	+156.0	+140.0	10.44	78.72	21.28
22792 .....	+159.0	+145.0	10.44	77.80	22.20
22795 .....	+154.0	+140.0	10.44	77.80	22.20
39422 .....	+146.0	+134.2	8.80	76.88	23.12
36183 .....	+156.0	+122.1	17.90	78.72	21.28
34742 .....	+163.0	+151.8	8.35	80.12	19.88
34748 .....	+159.0	+154.0	4.73	78.72	21.28
35372 .....	+142.0	+130.0	8.95	78.72	21.28
35373 .....	+150.0	+139.7	15.15	78.28	21.72
37557 .....	+147.0	+133.0	10.04	77.32	22.68
Means .....	+153.1	+139.2	10.25	78.18	21.82

A. LYLE & SON, LONDON, ENG.

33821 .....	+27.0	-11.0	29.83	81.04	18.96
33824 .....	+22.0	-15.5	27.99	80.12	19.88
31442 .....	+21.0	-17.6	28.70	78.24	21.76
932 .....	+24.0	-17.6	31.04	78.28	21.72
32677 .....	+22.0	-17.6	29.55	79.64	20.36
35791 .....	+23.6	-22.0	34.03	79.64	20.36
35374 .....	+31.0	-14.3	33.80	81.04	18.96
35375 .....	+23.0	-17.6	30.30	80.86	19.14
37559 .....	+20.1	-19.8	29.77	83.84	16.16
39283 .....	+23.6	-22.0	34.03	81.96	18.04
Means .....	+23.7	-17.5	31.01	80.47	19.53



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IMPERIAL SYRUP CO., MONTREAL.

Number.	POLARIZATION.		Cane Sugar.	Total Solids.	Water.
	Direct.	Invert.			
29872 .....	+ 63·0	+ 6·6	42·09	79·20	20·80
29875 .....	+ 72·0	+ 4·0	50·74	80·12	19·18
29876 .....	+ 66·0	+14·3	38·58	77·80	22·20
939 .....	+ 69·0	+11·0	43·27	75·96	24·04
933 .....	+ 64·0	+ 6·6	42·83	72·72	27·28
32606 .....	+ 64·0	- 4·4	52·54	77·32	22·68
30424 .....	+ 66·0	+ 5·5	47·15	77·37	22·63
30576 .....	+ 66·4	+12·1	40·52	75·48	24·52
37558 .....	+102·5	+46·8	41·60	80·60	19·40
39280 (?).....	+ 58·8	+14·3	34·20	75·48	24·52
Means .....	+ 69·1	+12·5	43·35	77·20	22·72

WESTBURN REFINING CO., GREENOCK.

33825 .....	+25·0	-15·5	30·22	80·12	19·88
39279 .....	+24·0	21·6	34·03	82·83	17·12
Means .....	+24·5	-18·5	32·12	81·80	18·50

DIAMOND BRAND (MAPLE CANE).

(CHAPUT FILS Co.)

31438 .....	+40·0	-19·8	44·81	66·36	33·64
31440 .....	+54·0	-19·0	54·47	70·44	29·56
Means .....	+47·0	-19·4	49·64	68·40	31·60

\* Ramsay Bros. Co., Successors to the Imperial Syrup Co.



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INDIVIDUAL SAMPLES.

No.	Name.	POLARIZATION.		Cane Sugar.	Total Solids.	Water.	Remarks.
		Direct.	Invert.				
32668	Golden Drips; Sugars and Canners Co.	+102·0	+ 52·8	56·71	76·88	23·12	Essentially cane syrup.
37560	Vancouver Syrup and Candy Co.	+ 62·0	- 15·4	57·76	68·68	31·32	"
36818	W. Turcotte & Cie, Quebec.	+ 72·0	+ 1·1	52·91	73·64	23·36	"
39282	Tea Golden Drips; Pacific Coast Syrup Co.	+ 91·6	+ 20·9	52·76	76·87	23·13	"
36820	Bedard & Frere .....	+ 76·8	+ 8·8	50·74	67·72	32·28	"
34733	Lind, Kerrigan & Co.. .....	+ 46·0	- 16·0	46·18	81·48	19·52	"
36819	W. Turcotte & Cie .. .....	+ 44·0	- 17·0	45·52	74·60	25·40	"
22793	Molasses; Bate & Co. ....	+ 49·0	- 11·0	44·78	77·37	22·63	"
36183	Molasses; Star Brand, War ren Bros.	+ 54·0	4·4	43·58	71·84	28·16	"
36182	Syrup; Dom. Molasses Co., Halifax.	+ 41·0	- 13·3	40·52	72·72	27·28	"
31439	Imperial Syrup Co., Maple Cane.	+ 62·0	- 18·7	40·22	64·12	35·88	"
31441	Crown Brand; Carvell Bros.	+154·0	+123·2	23·06	78·24	21·76	Mixture.
36184	Tartar Brand; Balfour, Smye & Co.	+161·0	+149·1	8·88	79·20	20·80	Essentially glucose.
30581	John Garvay, London.	+172·0	+160·6	8·50	78·72	21·28	"
30559	? .....	+155·0	+146·5	6·35	77·28	22·72	"
30572	Warren Br. s. Co. ....	+157·0	+149·6	6·28	75·96	24·04	"
34730	T. Kennedy & Co .. .....	+166·6	+160·6	4·48	75·96	24·04	"
30563	? .....	+166·0	+162·0	2·98	77·80	22·20	"



BULLETIN No. 177—TABLE SYRUPS—TABLE I.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address		Cost.	Inspector's Report.	RESULTS OF ANALYSIS.					
			Name and Address of Vendor.	Quantity.			Cents.	Direct Polarization.	Invert Polarization at 20 c.	Cane Sugar by Claret.	Total Solids.	Water.
DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.												
1909.												
Jan 15	Table Syrup	33821	E. W. Crease & Son, Halifax, N.S.	2 lb.	15	A. Lyle & Son, London, Eng.	+ 27	- 11 0	29 83	81 04	18 96	
" 15	"	33822	Knock & Nicolle, Halifax, N.S.	5 "	30	Edwardshurg Starch Co., Cardinal, Ont.	+ 151	+ 146 9	5 30	78 32	21 68	
" 19	"	33823	Shaud Bros., Windsor	2 "	13	"	+ 158	+ 151 8	5 40	79 12	20 88	
" 19	"	33824	John Riley, Windsor	2 "	18	A. Lyle & Son, London, Eng.	+ 22	- 15 5	27 99	80 12	19 88	
" 27	"	33825	S. Thomson, Dartmouth	3 "	30	Westburn Refining Co., Greenock, Scotland.	+ 25	- 15 5	30 22	80 12	19 88	
DISTRICT OF PRINCE EDWARD ISLAND—THEO. MOORE, INSPECTOR.												
Jan. 11	Table Syrup	31438	W. J. Lidstone, Summerside	1 can	20	Chaput fils & Co., Montreal.	40	- 19 8	44 81	66 36	23 64	
" 11	"	31439	R. T. Holman, Ltd., Summerside.	1 "	35	Imperial Syrup Co., Montreal	62	18 7	40 22	64 12	25 88	
" 14	"	31440	A. Gates & Co., Charlottetown	1 "	25	Chaput fils & Co., Montreal	54	- 19	54 47	70 44	20 56	
" 14	"	31441	M. Duffy, Charlottetown	1 "	12	Carvell Bros., Charlottetown.	151	+ 123 2	23 66	78 24	21 76	
" 14	"	31442	Sanderson & Co., Charlottetown.	1 "	20	Abram Lyle & Sons, London.	21	- 17 6	28 80	78 24	21 76	



DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

Jan.	12	Table Syrup	29872	2 Barkers, Ltd., St. John, N.B.	1	15	Imperial Syrup Co., Montreal Goldenette	Pure Cane	63	+	6	6	12	09	79	20	20	80
"	12	"	29873	Chas. H. Francis & Co., St. John, N.B.	1	12	Edwardburg Starch Co., Edwardburg	Maple Syrup.	141	+	132		6	71	80	56	19	44
"	16	"	29874	H. C. Jewett, Fredericton, N.B.	1	12	Cardinal, Ont.	Pure table syrup.	168	+	160		6	97	80	12	19	88
"	18	"	29875	Townsend & Hayden, Woodstock, N.S.	1	20	Imperial Syrup Co., Montreal Goldenette	Pure Cane	72	+	1		50	74	80	12	19	18
"	26	"	29876	The 2 Barkers, Ltd., Moncton, N.B.	1	12	"	Table Syrup.	66	+	14	3	38	58	77	80	22	20

DISTRICT OF QUEBEC—E. BELAND, INSPECTOR.

Jan.	13	Table Syrup	36818	Stanislas Gagnon, Quebec	1 1/2 pks.	12	N. Tancotte & Co., Quebec		72		1	1	52	91	73	64	23	36
"	13	"	36819	"	1 1/2	10	"		44		17		45	52	74	60	25	40
"	13	"	36820	T. Gueffard, Quebec	1 1/2	15	Richard & fies, Quebec		76	8	8		50	74	67	72	32	28
"	13	"	36821	"	1 box	12	Tancotte & fies, Quebec	Edwardburg Table Syrup	154		147	4	4	92	77	80	22	20
"	13	"	36822	"	1	12	T. B. Lathier, Quebec	Richave Cane Syrup. St. Lawrence Starch Co.	152		141	9	7	55	76	88	23	12

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

Jan.	11	Table Syrup	929	A. C. Trompe, Sorl	2 lbs.	15	Edwardburg Starch Co., Goldenette	Edwardburg	168		160	6	6	62	78	24	21	76
"	11	"	930	J. St. Laurent, St. Ours	2	15	Imperial Syrup Co., Montreal Goldenette	Pure Table Syrup.	69		11		43	27	75	96	24	04
"	12	"	931	B. H. Beland, Yamaska	5 l	25	Edwardburg Starch Co., Cardinal, Ont.	Syrup.	141		135	3	4	05	79	64	20	36
"	14	"	932	Woodman & McKee, Capreol	2	20	F. K. Major & Co., Montreal Lyles Golden Syrup		24		17	6	31	01	78	28	21	72
"	21	"	933	Raymond & fies, St. Hyacinthe	3 cans	36	Imperial Syrup Co., Montreal Goldenette		64		6	6	12	83	72	72	27	28



BULLETIN No. 177—TABLE SYRUPS—TABLE I.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				
						Cost.	Quantity.	Cents.	Direct Polarization.	Invert Polarization at 20° c.

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

1909.	Jan. 19	Table Syrup	32666 Imperial Syrup Co., Montreal.	3 lb. tin.	25	Vendors.....	Goldenette Pure Cane Table Syrup.	64	—	44	52.54	p.c. 77.32	p.c. 22.68
"	19	"	32667 English Provision Co., Montreal.	1 tin. real.	18	Abram Lyle & Sons, Ltd., London, Eng.	Warranted pure and free from starch glucose.	22	—	17.06	29.55	79.64	20.36
"	19	"	32668 Sugars & Cannery, Ltd., Montreal.	3 " real.	35	Vendors.....	"Golden Drops" Brand....	102	+	52.8	56.71	76.88	23.12
"	22	"	32669 T. Dallaire, Lachine Mills....	2 " "	24	Edwardsburg Starch Co.....	"Crown Brand".....	150	+	140.6	7.01	78.29	21.31
"	26	"	32670 Laporte Martin Co., Montreal.	3 " "	30	St. Lawrence Starch Co.....	Guaranteed 90 p.c. Corn Syrup and 10 p.c. Cane Syrup. Labelled "Corn Syrup."	156	+	40	10.44	78.72	21.28

DISTRICT OF OTTAWA—J. A. RICEY, INSPECTOR.

Jan.	6	Table Syrup	22791 Cavanaugh Bros., Maniwaki,	1 qt. p.c.	30	H. N. Bate & Sons, Ottawa.	"Crown" Brand.....	145	+	145	.....	79.20	20.80
"	11	"	22792 Birch Bros., Richmond, Ont.	1 " "	25	F. J. Castle Co., Ottawa.....	"Bee-hive" Brand "Corn Syrup. Guaranteed 90 p.c. corn syrup and 10 p.c. cane syrup.	159	+	145	10.44	77.80	22.20
"	19	"	22793 B. Palef, Ottawa.	1½ pt.	10	Bate & Co., Ottawa.....	Molasses.....	49	—	11	44.78	77.37	22.63
"	20	"	22794 Joseph Martel, Hull	1 qt. ....	25	Edwardsburg Starch Co., Cardinal, Ont.	"Crown" Brand.....	144	+	131	9.70	81.48	19.52
"	21	"	22795 Geo. E. Pelton, Billings' Bridge	1 " "	30	F. J. Castle Co., Ottawa.....	"Bee-hive" Brand, guaranteed 90 p.c. corn syrup and 10 p.c. cane syrup.	154	+	140	10.44	77.80	22.20



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## DISTRICT OF KINGSTON—J. HOGAN, INSPECTOR.

Jan.	6	Table Syrup	39121 A. Glover, Kingston	2 lbs.	12	Edwardsburg Table Syrup Co.	131	152.9	6.04	79.64	20.36
"	7	"	39122 H. M. Storer, Kingston	2 "	12	St. Lawrence Starch Co.	146	134.2	8.80	76.88	23.12
"	7	"	39123 C. Soumlers, Kingston	2 "	12	Edwardsburg Table Syrup Co.	134	125.4	6.41	79.64	20.36
"	7	"	39124 Anderson Bros., Kingston	2 "	12	Imperial Syrup Co., Montreal	66	5.5	47.15	77.37	22.63
"	7	"	39125 J. Kelly, Kingston	2 "	15	Edwardsburg Table Syrup Co.	161	150.7	7.68	79.16	20.84

## DISTRICT OF TORONTO—H. J. DAGGER, INSPECTOR.

1909.									p. c.	p. c.	p. c.
Jan.	8	Table Syrup	36182 E. F. Churchill, Toronto	2 tin	20	The Dominion Molasses Co., Golden Shrug Hull's N. S.	41	13.3	40.52	72.72	27.28
"	12	"	36183 Peters & Bonsell, Hamilton	1 tin	13	St. Lawrence Starch Co., Ltd. 90 per cent Pure Corn Syrup and 10 per cent Syrup	156	122.1	17.90	78.72	21.28
"	13	"	36184 J. C. Groom, Niagara Fall	1 "	15	Edwardsburg & Co., Hamilton " " " " Brand	161	149.1	8.88	79.20	20.80
"	15	"	36185 W. A. Sherwood & Son, St. Catharines	St. 1 pt	15	Edwardsburg Starch Co., " " " " Brand Canada	172	159.8	8.36	80.12	19.18
"	20	"	36186 W. J. McCullough, West Toronto	To 1 tin	24	Warren Bros & Co., Toronto "Star" Brand, West India Molasses	54	4.4	43.58	71.84	28.16

## DISTRICT OF LONDON—T. KIDD, INSPECTOR.

Jan.	7	Table Syrup	30559 H. J. Novrosch, Goderich	1 qt	15	Not known	155	146.5	6.33	77.28	22.72
"	8	"	30563 A. G. Ault, Sudborth	1 "	15	"	166	16.2	2.98	75.80	23.20
"	12	"	30572 N. Z. Coppen, Mitchell	3 bats	15	Warren Bros., Toronto	157	149.6	6.28	75.96	24.04
"	13	"	30576 J. M. Adam, St. Marys	1 qt	15	Imperial Syrup Co., Montreal	66	4.1	12.1	40.52	75.48
"	14	"	30581 A. Monteath, Stratford	1 "	15	John Garvey, London, Ont	172	160.6	8.50	78.72	21.28



BULLETIN No. 177—TABLE SYRUPS—TABLE 1.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cos.	Inspector's Report.		Results of Analysis.					
					Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	Direct Polarization.	Invert Polarization at 20 c.	(Cane Sugar by Clerget.	Total Solids.	Water.	

DISTRICT OF WINDSOR—J. TALBOT, INSPECTOR.

1909.	Jan.	7	Table Syrup.	34730	R. Kenny, Sarnia.....	3	bots	10	T. Kenney & Co., Sarnia.....	.....	+ 166	+ 160	6	p.c.	p.c.	p.c.
	"	7	"	34733	Peter Clark, Sarnia.....	3	"	15	Edwardsburg Starch Co. ....	"Crown" Brand.....	+ 156	+ 146	9	6	78	77
	"	8	"	34742	R. Hessey, Petrolia.....	3	"	15	Elliott Marr, London.....	"Bee-hive" Brand.....	+ 163	+ 151	8	8	35	80
	"	11	"	34748	S. M. Fleet, Ingersoll.....	3	"	38	St. Lawrence Starch Co. ....	"	+ 159	+ 154	0	4	73	78
	"	11	"	34753	P. J. Sherry, Ingersoll.....	2½	lb	18	Lind Kerrigan & Co., London.....	.....	+ 46	-	16	0	46	18

DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

Jan.	18	Table Syrup	35791	Slasor & McTaggart, Winnipeg	2	lb.	20	A. Lyle & Sons Ltd., London, Eng.	Lyle's Golden Syrup.....	.....	+ 23	6	22	0	34	03
"	18	"	35792	McDowell & Grant, Winnipeg	5	"	30	Edwardsburg Starch Co., Cardinal.	"Crown" Brand.....	.....	+ 169	+ 156	2	9	55	78
"	18	"	35793	T. J. Davis, Winnipeg	5	"	35	"	"	.....	+ 128	+ 116	6	8	50	81
"	18	"	35794	T. Goody, Winnipeg.....	5	"	50	"	"	.....	+ 143	+ 138	6	4	03	79
"	18	"	35795	R. D. Cuthbert, Winnipeg	5	"	25	"	"	.....	+ 140	+ 136	4	2	69	79



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## DISTRICT OF CALGARY R. W. FLETCHER, INSPECTOR.

Jan. 12	Table Syrup	35371	A. Brand, Calgary	2 lb tin	20	Edwardsburg Starch Co., Cardinal	131	125 4	6 41	79 20	20 80
" 12	"	35372	Golden West Grocery, Calgary	2 "	15	St. Lawrence Starch Co., Ltd., Port Credit, Ont.	142	130 0	8 95	78 72	21 28
" 12	"	35373	P. W. Garnot, Calgary	2 "	15	"	150	139 7	15 15	78 28	21 72
" 12	"	35374	S. G. Freeze, Calgary	2 "	25	Abraham, Lyle & Son Starch Co., London, Eng.	31	14 3	33 80	71 04	18 96
" 12	"	35375	Co-operative Store, Calgary	2 "	25	"	23	17 6	30 39	70 86	19 14

## DISTRICT OF VANCOUVER J. F. POWELL, INSPECTOR.

Jan. 26	Table Syrup	37556	J. A. Dickie, Vancouver	1 tin	15	Edwardsburg Starch Co., Cardinal	148	144 7	0 22	77 37	22 63
" 26	"	37557	C. Turner, Vancouver	1 "	15	St. Lawrence Starch Co., Cardinal	147	133 0	10 04	77 32	22 68
" 26	"	37558	J. May, Vancouver	1 "	20	Ramsay Bros. & Co., Vancouver	102	46 8	11 60	80 60	19 40
" 26	"	37559	J. R. Gosling, Vancouver	1 "	20	A. Lyle & Son, Ltd., Vancouver	201	19 8	29 77	83 84	16 16
" 26	"	37560	H. A. Elgette Co., Ltd., Vancouver	1 "	25	Vancouver Syrup & Candy Co.	62	15 4	57 76	68 68	31 32

## DISTRICT OF VICTORIA D. O'SULLIVAN, INSPECTOR.

Jan. 23	Table Syrup	39279	Fred Carne, Victoria	2 lb	25	Weston's Grocery, Ltd.	24	21 6	34 03	82 26	17 12
" 23	"	39280	"	2 "	25	Rossy Bros. & Co., Ltd., Vancouver	58 8	14 3	34 20	75 48	24 52
" 25	"	39281	The Saunders Grocery Co., Ltd., Victoria	1 qt	25	Edwardsburg Starch Co., Cardinal	100 8	147 5	2 47	77 37	22 63
" 25	"	39282	Dix H. Ross & Co., Victoria	1 "	15	Pharos Cream Starch Co., San Francisco, Cal.	94 6	20 9	52 76	76 87	23 13
" 25	"	39283	The West End Grocery Co., Ltd., Victoria	2 lb	20	Abraham, Lyle & Son, Ltd., London, Eng.	23 6	22 0	34 03	81 96	18 04







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## APPENDIX BB.

## BULLETIN No. 178—SPIRIT OF CAMPHOR (SPIRITUS CAMPHORÆ).

OTTAWA, March 26, 1909.

WM. HIMSWORTH, Esq.,  
Acting Deputy Minister of Inland Revenue.

SIR,—I beg to hand you herewith a report upon seventy-four (74) samples of spirit of camphor, purchased throughout Canada in January of this year.

The collection was made in consequence of some complaints to the effect that this article was offered with so weak a spirit strength as to make it useless for the purposes to which it is applied by physicians and the public.

The present examination has regard solely to the spirit-strength of the alcohol used. It is intended, in the course of the coming year, to make another collection, in which the content of camphor, and the nature of the alcohol employed as a solvent will be determined.

The British Pharmacopœia prescribes spiritus rectificatus (90 per cent alcohol) as the proper solvent for preparation of spirit of camphor. This spirit has a specific gravity 0.834; and the resulting spirit of camphor is required to have a specific gravity varying between 0.843 and 0.847. There is an increase of volume of approximately 10 per cent on dissolving camphor in alcohol, according to pharmacopœial directions for preparation of spirit of camphor. Allowance being made for this increase of volume, the finished spirit of camphor represents an alcoholic solution containing practically 81 per cent by volume of alcohol.

Reasonable allowance being made for loss of alcohol due to evaporation during manufacture and the opening of bottles in dispensing, I have considered it right to pass all samples showing over 75 per cent by volume of alcohol. This amount of alcohol is sufficient to retain in solution the whole of the camphor used in the manufacture of pharmacopœial spirit of camphor.

Twelve samples show less than 75 per cent of alcohol. Of this number eight (8) samples contain above 70 per cent, and may be regarded rather as doubtful, than as actually adulterated, in the sense of having been made with less spirit than the pharmacopœia requires. Four (4) samples, are distinctly too low in spirit, and must be regarded as adulterated under the Act. These are:—

No. 36810 containing 54.08 per cent Alcohol.

" 36812	"	56.72	"	"
" 937	"	58.60	"	"
" 22903	"	60.84	"	"

This is the first occasion of inspecting spirit of camphor; and as it is purposed to institute another inspection, in the course of which a more detailed study of the article will be undertaken, it may be considered rather satisfactory than otherwise, that I am able to report an adulteration of less than 5.5 per cent.

I beg to recommend the publication of this report as Bulletin No. 178.

I have the honour to be, sir,  
Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



BULLETIN No. 178—SPIRIT OF CAMPHOR (SPIRITUS CAMPHORÆ).

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSES.		
				Quantity.	Cents.			Sp. Gr. Distillate to 4 Vols.	Alcohol by Volume.	

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

1909.									P. C.
Jan.	12	Spirit of Camphor...	33831	Buckley Bros., Halifax, N.S.	4 oz.	35	Vendors	.....	0.9754 83.20
"	14	"	33832	A. A. Thompson, Halifax, N.S.	4 " "	25	Vendor	.....	0.9751 81.36
"	19	"	33833	H. E. Wilson, Halifax, N.S.	4 " "	30	"	.....	0.9756 82.44
"	20	"	33834	W. F. Odell, Truro	4 " "	30	"	.....	0.9749 85.16
"	20	"	33835	Hub. Drug Store, Truro	4 " "	40	"	.....	0.9755 82.84

DISTRICT OF PRINCE EDWARD ISLAND--THEO. MOORE, INSPECTOR.

Jan.	7	Spirit of Camphor.	31448	A. W. Reddin, Charlottetown.	4 oz.	40	Vendors	.....	.....	0.9761	80.60
"	7	"	31449	G. E. Hughes, Charlottetown	4 " "	40	"	.....	.....	0.9750	84.76
"	7	"	31450	Johnson & Johnson, Charlotte town.	4 " "	40	"	.....	.....	0.9763	79.84
"	11	"	31451	A. W. P. Gourlie, Summerside	4 " "	45	"	.....	.....	0.9784	71.24
"	12	"	31452	Edgar Keir, Kensington	4 " "	40	"	.....	.....	0.9751	84.36



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## DISTRICT OF NEW BRUNSWICK--J. C. FERGUSON, INSPECTOR.

Jan. 11	Spirit of Camphor.	29882	George A. Moore, St. John, N.B.	4 oz.	40	Vendor.	0 9751	84 36
" 16	"	29883	A. J. Ryan, Fredericton, N.B.	4 "	20	"	0 9757	82 08
" 18	"	29884	Garden Bros., Woodstock	4 "	20	"	0 9751	84 36
" 25	"	29885	Sussex Mercantile Co., Ltd.	4 "	45	C. H. Fairweather, Dispet sor, Sussex Mercantile Co.	0 9751	84 36
" 27	"	29886	A. E. Shaw, Newcastle, N.B.	4 "	20	A. E. Shaw, Newcastle, N.B.	0 9756	82 44

## DISTRICT OF QUEBEC E. BELAND, INSPECTOR.

Jan. 11	Spirit of Camphor.	36808	A. Martin au, 734 St. Valier St.	4 oz.	25	Vendor	0 9749	85 16
" 11	"	36809	Quebec. Jos. Masson, 808 St. Valier St.	4 "	25	"	0 9763	79 84
" 12	"	36810	Quebec. G. P. Plamondon, 122 St. Joseph	4 "	25	"	0 9829	54 08
" 12	"	36811	St., Quebec. P. C. Lachevrotiere, 224 St. John	4 "	40	"	0 9734	86 85
" 12	"	36812	St., Quebec. C. P. Delisle, 379 St. John St.	4 "	25	"	0 9822	56 72
			Quebec.					

## DISTRICT OF ST. HYACINTHE J. C. ROULLEAU, INSPECTOR.

Jan. 11	Spirit of Camphor.	935	Pharmacie Larochelle	4 oz.	20	Vendor	0 9761	77 48
" 13	"	936	Dr. Bedard, Drummondville	4 "	30	"	0 9761	80 60
" 19	"	937	Dr. C. P. Verdon, Granby	4 "	35	"	0 9817	58 60
" 19	"	938	Dr. Demers, Farnham	4 "	35	Lynan Knux, Montreal	0 9761	80 60
" 20	"	939	Dr. Gay, St. Jean, Que	4 "	40	Vendor.	0 9757	82 08



BULLETIN No. 178—SPIRIT OF CAMPHOR—(SPIRITUS CAMPHORÆ).

Date of Collection.	Name of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Inspector's Report.	RESULTS OF ANALYSIS.	
				Quantity.	(Cents.)		Sp. Gr. Distillate to 4 Vols.	Alcohol by Volume.

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

Jan.	5	Spirit of Camphor.	32671	E. Gagnon, 93 St. Valer Ville, 4 oz., St. Louis, P.Q.	35	Vendor.	.....	0 9778	73·92
"	5	"	32672	H. R. Huot, 68 Laurier Av., St. L., Lens, P.Q.	45	"	.....	0 9746	86·36
"	11	"	32673	James Fortune, Huntingdon, 4 "., P.Q.	30	"	.....	0 9766	78 72
"	14	"	32674	Dr. J. B. Martin, 212 St. Joseph, 4 oz., St., Lachine, P.Q.	40	"	.....	0 9742	87·96
"	22	"	32675	G. H. Christie, Lachine.... 4 ".	30	"	.....	0 9742	87 96

DISTRICT OF OTTAWA—J. A. RICKY, INSPECTOR.

Jan.	8	Spirit of Camphor.	22901	W. G. Bolster, Chesterville.... 4 oz.	40	Vendor.	Sold as Spirit of Camphor after purchase of sample Vendor said it was made with Columbia Spirits.	0 9782	72 12
"	12	"	22902	D. A. Muirhead, Carleton Place 4 ".	30	"	Sold as Spirit of Camphor	0 9761	80·60
"	13	"	22903	Chas. A. Adams, Kemptville.. 4 ".	30	McLennan, Kemptville.	" " "	0 9811	60·84
"	19	"	22904	J. A. Musgrove, Ottawa..... 4 ".	45	Vendor.	" " "	0 9772	76·32
"	20	"	22905	The Modern Pharmacy, Hull, P.Q.	40	"	" " "	0 9740	88·72



DISTRICT OF KINGSTON—JAS. HOGAN, INSPECTOR.

17	Jan.	8	Spirit of Camphor...	39431	W. W. Gibson, Kingston.	4 oz.	40	Vendor	.....	0 9758	81 72
19	"	11	"	39432	D. Blocker, Belleville....	4 "	30	"	.....	0 9760	80 96
	"	11	"	39433	A. L. Ginn, Belleville....	4 "	20	"	.....	0 9751	84 36
	"	11	"	39434	W. J. Davison, Port Hope....	4 "	33	"	.....	0 9758	81 72
	"	12	"	39435	McDonald & Jory, Peterboro.	4 "	40	Vendors	.....	0 9760	80 96

DISTRICT OF TORONTO—H. J. DAGGER, INSPECTOR.

	Jan.	8	Spirit of Camphor.	39477	M. E. Vanzant, Ltd., Toronto.	4 oz.	35	Vendors	.....	0 9747	85 96
	"	11	"	39478	Littlowoods Pharmacy, Hamilton	4 "	35	Vendor	.....	0 9749	85 16
	"	13	"	39479	F. W. Mills, Hamilton	4 "	35	"	.....	0 9745	86 76
	"	15	"	39480	Walker & Abbas, St. Catharines	4 "	35	Vendors	.....	0 9747	85 96
	"	19	"	39481	The T. Eaton Drug Co., Ltd., Toronto.	4 "	30	"	.....	0 9750	84 76

DISTRICT OF LONDON—T. KIDD, INSPECTOR

	Jan.	6	Spirit of Camphor...	39556	H. O. Dunlop, Goderich, O....	4 oz..	40	Vendor.....	.....	0 9742	87 96
	"	11	"	39568	W. S. R. Holmes, Clinton, O....	4 " ..	40	Not known.....	.....	0 9745	86 76
	"	14	"	39578	E. A. Rea, Stratford.....	4 " ..	40	Vendor.....	.....	0 9754	83 20
	"	16	"	39588	J. D. McKee, Guelph	4 " ..	40	"	.....	0 9746	86 36



BULLETIN No. 178—SPIRIT OF CAMPHOR—(SPIRITUS CAMPHORE).

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.	
				Quantity	Cents.			Sp. Gr. Distillat <sup>n</sup> 4 Vol	Alcohol by Volume.

DISTRICT OF WINDSOR—JAS. TALBOT, INSPECTOR.

1909.									
Jan.	7 Spirit of Camphor.	34735	H. Robertson, Sarnia	4 oz.	40	Vendor	.....	0.9737	89.81
"	"	34739	Peter McGibbon, Sarnia	4 "	25	"	.....	0.9762	80.24
"	"	34743	W. H. Dale, Petrolia	4 "	50	"	.....	0.9747	85.96
"	"	34750	G. Ienson, Ingersoll	4 "	40	"	.....	0.9749	85.16
"	"	34751	F. G. Walley, Ingersoll	4 "	40	"	.....	0.9786	70.36

DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

Jan.	13 Spirit of Camphor	35821	Morrison's Drug Store, Virden, M.	1 oz.	40	Vendor	.....	0.9755	82.84
"	"	35822	E. W. Bailey, Hartney, M.	4 "	40	"	.....	0.9749	85.16
"	"	35823	Millers Pharmacy, Shoal Lake	4 "	35	Not known	.....	0.9748	85.56
"	"	35824	H. K. Clatway, Shoal Lake	4 "	35	Vendor	.....	0.9750	84.76
"	"	35825	F. L. Brown, Winnipeg	4 "	30	"	.....	0.9773	75.92



DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR

Jan. 15	Spirit of Camphor.	35382	W. McLean, Calgary	4 oz.	25	Vendor	.....	0 9743	87 56
" 22	"	35383	B. F. Souch, Medicine Hat.	4 "	50	"	.....	0 9749	85 16
" 22	"	35384	E. M. Cayner, Medicine Hat.	4 "	50	"	.....	0 9767	78 76
" 22	"	35385	C. T. Pringle, Medicine Hat	4 "	50	"	.....	0 9776	71 72
" 26	"	35386	Esclales Drug Store, Calgary	4 "	40	"	.....	0 9781	72 56

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

Jan. 29	Spirit of Camphor.	37566	Marett, Reid, Vancouver.	4 oz.	50	Vendors	.....	0 9743	87 56
" 29	"	37567	Herzog & Strachan, Vancouver	4 "	40	"	.....	0 9746	86 36
" 29	"	37568	L. Henderson, Vancouver	4 "	30	Vendor	.....	0 9760	80 96
" 29	"	37569	Nelsons Drug Store, Vancouver.	4 "	30	"	.....	0 9786	70 36
" 29	"	37570	City Drug Store, Vancouver	4 "	60	"	.....	0 9776	74 72

DISTRICT OF VICTORIA—D. O'SULLIVAN, INSPECTOR.

Jan. 26	Spirit of Camphor.	39289	Dean & Hiscocks, Victoria	4 oz.	50	Vendors	.....	0 9754	83 20
" 26	"	39290	Hall & Co., Victoria	4 "	40	"	.....	0 9737	89 84
" 26	"	39291	W. Jackson & Co., Victoria	4 "	35	"	.....	0 9743	87 56
" 27	"	39292	W. S. Perry, Victoria	4 "	40	Vendor	.....	0 9769	77 96
" 27	"	39293	F. J. Williams, Victoria	4 "	50	"	.....	0 9752	83 96



APPENDIX CC.

BULLETIN No. 179—TINCTURE OF GINGER (TINCTURA ZINGIBERIS).

OTTAWA, March 30, 1909.

WM. HIMSWORTH, Esq.,  
Acting Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 75 samples purchased as tincture of ginger during the month of January of this year. All the inspectoral districts of Canada are represented.

This report has regard solely to the strength of the alcohol used in these preparations, which were obtained in drug shops, and should conform to the requirements of the pharmacopœias.

The British pharmacopœia demands the employment of 90 per cent spirit; the United States pharmacopœia demands alcohol of 94·9 per cent; both percentages have regard to volume.

It will be seen that sixty-one (61) samples constituting above 80 per cent of the collection, contain alcohol of above 80 per cent strength in the finished product. These may be looked upon as essentially complying with pharmacopœal requirements, allowing for volatilization of alcohol in opening bottles in dispensing.

The remaining fourteen (14) samples are as follows:—

District.	Number.	Alcohol.
Prince Edward Island .....	{ 31455	77·20
	{ 31456	71·94
Quebec.....	{ 36813	76·22
	{ 36814	72·64
	{ 36815	76·50
St. Hyacinthe .....	943	70·40
Ottawa.....	{ 22907	74·82
	{ 22908	72·52
	{ 22909	49·96
Kingston.....	39440	*59·72
Toronto.....	36171	66·30
	{ 37562	†63·92
	{ 37564	75·24
Vancouver.....	{ 37565	†43·78

\* Sold as essence.      † Made from fluid extract of ginger.

As pointed out in Bulletin 110 (Oct. 1905), alcoholic preparations of ginger are known as Tinctures, Essences and Extracts. The tincture is the only one of these which is recognized officially by the British pharmacopœia. The United States pharmacopœia (8th revision) describes a fluid extract of ginger, made with alcohol of the same strength as that contained in the tincture, while the quantity of ginger used is five times as much as in the preparation of the tincture. It is possible that a satisfactory tincture might be made from this fluid extract, by dilution with alcohol; but the phar-



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macopœia does not authorize preparation of the tincture in this way ; and it is not to be taken as proved that a tincture so made could properly be substituted for the official tincture. Under no circumstances could the use of a weaker alcohol in dilution be justified.

Essence of ginger is not a pharmacopœal preparation ; and should not be dispensed. As a mode of supplying ginger for culinary purposes, the essences have a proper place in the grocery trade.

It will be seen that one of the samples low in alcohol (No. 39410) is sold as an essence of ginger, and should not have been accepted by our inspector. Two others (Nos. 22909 and 36171) contain less than 70 per cent alcohol, and cannot by any reasonable interpretation be looked upon as coming up to pharmacopœal requirements. Numbers 37562 and 37565 are stated to be made from the Fluid Extract. Even were such a method of preparing the tincture allowable, the samples in question have been made by dilution with an alcohol much below the strength required by the pharmacopœia. They must be regarded as adulterated under the Act.

I beg to recommend the publication of this report as Bulletin No. 179.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,  
*Chief Analyst.*



BULLETIN No. 179—TINCTURE OF GINGER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.					Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Sp. Gr. of Sample.	Sp. Gr. of Distillate to equal Vol.	Difference.	Alcohol p.c. by Weight.	Alcohol p.c. by Volume.	

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

1909.													
Jan. 12	Tincture of Ginger	33836	J. McD. Taylor, Halifax, N.S.	4 oz.	30	Vendor	.....	0.8280	0.8267	0.0013	88.48	92.16	
" 13	"	33837	C. A. Barnstead, Halifax, N.S.	4 "	30	Unknown	.....	0.8454	0.8449	0.0005	81.40	86.64	
" 15	"	33838	C. E. Huggins, Halifax, N.S.	4 "	30	Vendor	.....	0.8397	0.8385	0.0012	83.88	88.60	
" 20	"	33839	Crowe Bros., Truro, N.S.	4 "	30	"	.....	0.8276	0.8270	0.0016	88.36	92.04	
" 20	"	33840	W. H. Stevens, Dartmouth	4 "	35	"	.....	0.8272	0.8251	0.0021	89.12	92.64	

DISTRICT OF PRINCE EDWARD ISLAND—THEO. MOORE, INSPECTOR.

Jan. 8	Tincture of Ginger	31453	J. G. Jamieson, Charlottetown	4 oz.	40	Vendor	.....	0.8545	0.8528	0.0017	78.20	84.02	
" 8	"	31454	Reddin Bros., Charlottetown	4 "	40	Vendors	.....	0.8261	0.8239	0.0022	89.58	92.96	
" 11	"	31455	P. N. Enman, Summerside	4 "	35	Vendor	.....	0.8766	0.8713	0.0046	70.32	77.20	Doubtful.
" 11	"	31456	McFadyen & McLellan, Summerside.	4 "	60	Can. Drug Co., St. John, N.B.	.....	0.8896	0.8851	0.0045	64.52	71.94	"
" 14	"	31457	Gillis & Sons, Charlottetown	4 "	40	Nat. Drug Co., Halifax.	.....	0.8415	0.8385	0.0030	83.88	88.60	







BULLETIN No. 179—TINCTURE OF GINGER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Sp. Gr. of Sample.	Sp. Gr. of Distillate to equal Vol.	Difference.	Alcohol p. c. by Weight.	Alcohol p. c. by Volume.

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

1909.	Jan.	6	Tincture of Ginger	32676	J. J. Wemfield, 458 St. Lawrence St., Montreal.	45	Nat. Drug & Chem. Co.	.....	0.8300	0.8270	0.0030	p.c. 86.36	p.c. 92.04	
	"	8	"	32677	A. Goyette, 141 St. Catherine St., Montreal.	35	Lyman, Knox & Co., Montreal.	.....	0.8280	0.8247	0.0033	88.27	92.74	
	"	14	"	32678	Dr. J. A. Clement, Lachine, P. Q.	45	Not known.....	.....	0.8550	0.8555	0.0004	77.08	83.06	
	"	14	"	32679	E. A. Ranson, Lachine, P. Q.	45	Vendor.....	.....	0.8591	0.8582	0.0009	75.95	82.10	
	"	22	"	32680	G. H. Cristie, Lachine, P. Q.	30	Lyman, Sons & Co., Montreal.	.....	0.8636	0.8582	0.0054	75.95	82.10	

DISTRICT OF OTTAWA—J. A. RICEKY, INSPECTOR.

Jan.	12	Tincture of Ginger	22906	W. J. Hughes, Carleton Place.	4 oz.	40	Vendor	.....	Sold as tin- ture of gin- ger.	0.8328	0.8326	0.0002	86.19	90.44	
"	12	"	22907	D. H. McIntosh, M.D., Carleton Place.	4 "	40	"	.....	"	0.8800	0.8777	0.0023	67.67	74.82	Doubtful.
"	18	"	22908	The Standard Drug Co., Ottawa	4 "	35	Vendors	.....	"	0.8849	0.8836	0.0013	65.17	72.52	"
"	18	"	22909	W. F. Garland, Ottawa	4 "	35	Vendor	.....	"	0.9359	0.9357	0.0002	41.95	49.96	Adulterated.
"	20	"	22910	Hull Medical Hall, Hull	4 "	40	Vendors	.....	"	0.8340	0.8337	0.0003	85.77	90.08	



DISTRICT OF KINGSTON—JAS. HOGAN, INSPECTOR

14—30	Jan. 8	Tincture of Ginger	39436	W. W. Gibson, Kingston.....	4 oz ..	40	Vendor ..	.....	0·8319	0·8287	0·0032	87·69	91·54
	" 11	"	39437	D. Blecker, Belleville.....	4 " ..	50	"	.....	0·8309	0·8267	0·0042	88·48	92·16
	" 11	"	39438	A. L. Glen, Belleville.....	4 " ..	30	"	.....	0·8591	0·8549	0·0042	77·33	83·26
	" 11	"	39439	W. J. B. Davison, Port Hope.	4 " ..	28	"	.....	0·8407	0·8354	0·0053	85·12	89·58
	" 12	Essence of Ginger.	39440	McDermid & Jury, Peterboro .	4 " ..	40	"	.....	0·9211	0·9138	0·0073	51·88	59·72
													Collected by mistake.

DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

1909.	Jan. 7	Tincture of Ginger	36171	The Broadway Drug Co., Toronto.	4 oz ..	35	Lyman Bros., Ltd. Toronto.	.....	0·9040	0·8989	0·0051	58·55	66·30	Adulterated.
	" 12	"	36172	Hawkins, Ltd., Hamilton.....	4 " ..	35	Vendors ..	.....	0·8287	0·8267	0·0020	88·48	92·16	
	" 12	"	36173	R. C. Reynolds, Hamilton.....	4 " ..	30	"	.....	0·8314	0·8287	0·0027	87·69	91·54	
	" 15	"	36174	F. W. Jeffs, St. Catharines....	4 " ..	40	Lyman Bros., Ltd. Toronto.	.....	0·8462	0·8457	0·0005	81·08	86·38	
	" 19	"	36175	W. H. Lee, Toronto .....	4 " ..	40	Vendor ..	.....	0·8275	0·8275	0·0000	88·16	91·90	

DISTRICT OF LONDON—T. KIDD, INSPECTOR.

Jan. 11	Spirit of Ginger...	30567	W. A. McConnell, Clinton ...	4 oz ..	40	Nat. Chem. Co., London.	.....	0·8484	0·8442	0·0042	81·68	86·88
" 12	Tincture of Ginger	30571	W. B. Barley, Mitchell .....	4 " ..	40	W. B. Barley, Mitchell..	.....	0·8423	0·8414	0·0009	82·77	87·74
" 16	"	30586	Borgadus & Co., Guelph .....	4 " ..	40	Vendors ..	.....	0·8508	0·8501	0·0007	79·28	84·90
" 16	"	30587	J. B. Broadfoot, Guelph .....	4 " ..	40	J. B. Suttleworth, Toronto.	.....	0·8287	0·8279	0·0008	88·00	91·78
" 16	"	30589	J. D. McKee, Guelph .....	4 " ..	40	Lyman Bros., Toronto.	.....	0·8549	0·8541	0·0008	77·67	83·58

Orby's Essence.



BULLETIN No. 179—TINCTURE OF GINGER.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report.	RESULTS OF ANALYSIS.				Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.			Sp. Gr. of Sample.	Sp. Gr. of Distillate to equal Vol.	Difference.	Alcohol p. c. by Weight.	Alcohol p. c. by Volume.

DISTRICT OF WINDSOR—JNO. TALBOT, INSPECTOR.

1909. Jan. 7	Tincture of Ginger	34737	R. T. Geary, Sarnia .....	4 oz ..	30	Vendor .....	.....	0·8233	0·8190	0·0043	p.c. 91·36	p.c. 94·26	
" 8	"	34745	J. McRobie, Petrolia .....	4 " ..	40	" .....	.....	0·8694	0·8594	0·0100	75·41	81·64	
" 8	"	34746	J. E. Platt, London .....	6 " ..	60	Not known. ....	.....	0·8338	0·8329	0·0009	86·08	90·32	
" 11	"	34749	R. N. Thurtell, Ingersoll ...	3 " ..	25	Vendor .....	.....	0·8272	0·8267	0·0005	88·48	92·16	
" 11	"	34752	J. G. Gayfer, Ingersoll .....	4 " ..	35	" .....	.....	0·8397	0·8329	0·0068	86·08	90·32	

DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

Jan. 12	Tincture of Ginger	35831	Vrooman & McCullough, Win- nipeg.	4 oz ..	25	Not known .....	.....	0·8723	0·8601	0·0122	75·09	81·34	
" 12	"	35832	The Clarendon Pharmacy, Winnipeg.	4 " ..	35	Davis & Lawrence Co., Montreal.	.....	0·8584	0·8555	0·0029	77·08	83·06	
" 13	"	35833	Higginbotham & Son, Virden.	4 " ..	20	Vendors .....	.....	0·8382	0·8377	0·0005	84·20	88·86	
" 14	"	35834	F. Woodhull & Co., Hartney ..	4 " ..	45	" .....	.....	0·8338	0·8329	0·0009	86·08	90·32	
" 21	"	35835	Brooking's Drug Store, Winni- peg.	4 " ..	30	" .....	.....	0·8340	0·8340	0·0000	85·62	89·96	



DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

Jan. 15	Tincture of Ginger	35387	Oliver Bros., Calgary	4 oz	25	Vendors	0.8287	0.8287	0.0000	87.69	91.55
" 29	"	35388	J. H. Lives, Edmonton	4 "	25	Park, Davis & Co., Walkerville.	0.8532	0.8501	0.0051	79.28	84.90
" 29	"	35389	E. M. Carpenter, Edmonton	4 "	40	Vendor	0.8280	0.8280	0.0000	87.96	91.75
" 29	"	35390	Algonquin Pharmacy, Edmonton.	4 "	30	John Wyeth & Bro's Extract, Philadelphia.	0.8253	0.8220	0.0033	90.29	93.50
" 29	"	35391	Edmonton Drug Co., Edmonton.	4 "	50	Edmonton Drug Co., Edmonton.	0.9263	0.8207	0.0056	90.75	93.82

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

Jan. 29	Tincture of Ginger	37561	C. Muddell, Vancouver	4 oz	50	Lyman & Sons, Montreal.	0.8640	0.8621	0.0019	74.18	80.54
" 29	"	37562	Knowlton Drug Store, Vancouver.	4 "	50	Vendor	0.9099	0.9045	0.0055	56.09	63.92 Adulterated.
" 29	"	37563	Central Drug Store, Vancouver	4 "	50	"	0.8293	0.8287	0.0006	87.69	91.54
" 29	"	37564	Owl Drug Store, Vancouver	4 "	40	Not known	0.8785	0.8766	0.0019	68.13	75.24 Doubtful.
" 29	"	37565	McDuffee Bros. & Co., Vancouver.	4 "	40	Vendors	0.9675	0.9457	0.0118	36.72	43.78 Adulterated.

DISTRICT OF VICTORIA—D. O'SULLIVAN, INSPECTOR.

Jan. 27	Tincture of Ginger	39284	W. Jackson & Co., Victoria	4 oz	35	Baiss Bros. & Stephenson, London, Eng.	0.8287	0.8283	0.0004	87.85	91.66
" 27	"	39285	W. S. Terry, Victoria	4 "	40	Vendor	0.8514	0.8491	0.0023	79.68	85.24
" 27	"	39286	D. E. Campbell, Victoria	4 "	35	"	0.8479	0.8471	0.0008	80.50	85.90
" 27	"	39287	F. J. Williams, Victoria	4 "	50	"	0.8438	0.8426	0.0012	82.31	87.38
" 27	"	39288	Geo. A. Fraser, Victoria	4 "	40	"	0.8280	0.8247	0.0033	88.27	92.74



